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DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

Elderly Pedestrian Integration Report

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EXECUTIVE HIGHLIGHTS

Report Integration

- The telephone survey findings were supported with the following phases of the social marketing study: literature review, expert interviews, and focus groups.

Senior Pedestrians

- An average of 28 pedestrians die each year in Hawaii.
- Elderly pedestrians 65 years and older over-represented the fatalities during 2002 in Hawaii.
- Of the 33 pedestrians deaths in 2002, 5 were between the ages of 65 and 74, and 13 were over the age of 75.

Acceptance of Society

- The general public and the at-risk group of senior pedestrians underestimated the actual number of pedestrian fatalities each year in Hawaii.
- The majority of the public agreed that pedestrians should always use crosswalks and drivers should not proceed when pedestrians are in a crosswalk.
- Half of the public agreed that drivers do not respect the rights of pedestrians.

Walker Segments

- Slightly less than half of the respondents have walked at least once in the past week of answering the survey while the remaining percentage have not walked in the past week.
- Frequent walkers were categorized as those who walked at least once to any destination within the last week of participating in the survey.
- The primary reasons for the walks among the frequent walker segment were for exercise and shopping.
- The time of day the frequent walkers traveled the most was between 6 am and 9 am as well as 3 pm and 6 pm.

Pedestrian Friendly Roads

- Less than half of the frequent walkers considered the roads and streets in Hawaii to be pedestrian-friendly while a slightly higher percentage of infrequent walkers gave a more favorable response to Hawaii's streets.
- The majority of the pedestrians believe it is more dangerous to cross the street now than it was ten years ago.
- More frequent walkers than infrequent walkers agreed that they would walk more often if the roads where more pedestrian-friendly.

Problems at the Crosswalk

- More than half of the respondents believed that crosswalk signals do not provide enough time to walk across safely.
- Most of the walkers felt safer crossing at a signalized crosswalk than one with only markings on the street.
- A relatively small amount of pedestrians always fear walking across the street.
- Three quarters of the participants agreed that drivers should get ticketed for not allowing pedestrians to cross at crosswalks.
- A small percentage of walkers always wave to a driver that stops for them.

Jaywalking

- Less than two-thirds of the pedestrians always look for a safe place to cross whether in a crosswalk or not.
- The number of jaywalkers was larger than the number of pedestrians who always walk across the street at an intersection or crosswalk.
- More infrequent walkers than frequent walkers worry about police officers issuing citations for crossing illegally.
- Most of the focus group participants admitted to jaywalking.
- The primary reason for jaywalking was for convenience rather than walking all the way up the street to get to a crosswalk.

Attentiveness and Responsibility Among Pedestrians and Drivers

- Many of the pedestrians said they always looked for cars even when they have the right-of-way and pay attention to cars when crossing at a crosswalk with signals.
- Half of the respondents said they always make eye contact with drivers before crossing the street.
- Drivers were considered to be more at fault during an accident compared to the responsibility of pedestrians.

Diminishing Physical Abilities

- A relatively small portion of the survey participants had difficulties crossing the street or estimating the speed of approaching cars.

Preventative Measures

- Three quarters of the respondents believed that drivers should get ticketed for not allowing pedestrians to cross at crosswalks.
- Compared to the driver citation response, a lower percentage of participants agreed that tickets and fines were given to people for crossing at places other than crosswalks or intersections.
- It appears that distributing educational materials would be effective among frequent walkers and infrequent walkers.
- Other favorable countermeasures with support from about half of the pedestrians included the following: free reflective strips to wear on clothing, city buses waiting for waving pedestrians so they do not have to run across the street, and crosswalks designated for senior pedestrians.
- The least favorable safety measure was prohibiting drivers from making a right turn when the light is red.

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Elderly Pedestrian Study

The Hawaii Department of Transportation contracted SMS to organize a social marketing campaign to promote pedestrian safety among seniors. The objectives in the initial stages of the project were to identify attitudes and behaviors toward pedestrian safety. The ultimate goal of the study will be to develop influential messages and approaches that would encourage safe walking behavior and awareness among senior pedestrians.

The project was initiated as a result of an overrepresentation of senior and elderly pedestrian fatalities in recent years in Hawaii. The study was implemented through a series of stages, which started with a literature review and continued with expert interviews, focus groups, and a telephone survey. An overview of each stage is as follows:

- **Literature Review:** Previous research studies and historic data were organized to establish a background on the problem of senior pedestrian fatalities.
- **Expert Interviews:** Safety experts and public officials provided their in-depth knowledge on issues concerning senior pedestrians.
- **Focus Groups:** Two groups of senior pedestrians as well as two sessions with drivers of all ages were conducted to understand walking habits and attitudes toward proper behavior.
- **Telephone Survey:** Four hundred participants over the age of 55 were randomly sampled throughout Hawaii in order to assess their behaviors and attitudes toward pedestrian safety.

Findings from each of the four phases have been integrated into this report. Subsequently, a social marketing plan will be written and tested through an e-mail panel with experts and the general public.

Telephone Survey Methodology and Sampling

The survey was conducted during October and November of 2003 with four hundred random households in the State of Hawaii. The sample for the survey was selected from a stratified frame, which was random within strata. The procedure uses disproportionate stratification for each island, and proportionate stratification for selecting telephone number stems within each island. The sample size provided a margin of error of +/- 5% on responses.

In addition, the survey was fielded using a Computer Assisted Telephone Interviewing system. This surveying method allows an interviewer to directly enter responses into a computer file with the Survey System program. The questionnaire patterns were automatically programmed, and the interviewer was able to view the questions and answers of the survey through a computer screen. Responses collected in the data file were aggregated and analyzed through SPSS v10.

Overview of the Social Marketing Process

Social marketing is the planning and implementation of programs designed to bring about social change using concepts from commercial marketing. This process will ultimately reshape behavior over time with continuous reinforcement and a multidirectional approach from various points of influence.

Important concepts that construct the foundation for the social marketing process are as follows:

- The objective of marketing is to influence action.
- Action is undertaken whenever target audiences believe that the benefits they receive will be greater than the costs they incur (costs are not restricted to financial costs).
- Programs to influence action will be more effective if they are based on an understanding of the target audience's own perceptions of the proposed exchange.
- Target audiences are seldom uniform in their perceptions and/or likely responses to marketing efforts and so should be partitioned into segments.
- Marketing efforts must incorporate all of the "4 Ps" of marketing:
    - Create an enticing **product** (i.e., the package of benefits associated with the desired action)
    - Minimize the **price** the target audience believes it must pay or compromise in the exchange
    - Make the exchange and its opportunities available in **places** that reach the audience and fit its lifestyles
    - **Promote** the exchange opportunity with creativity and through channels and tactics that maximize desired responses
- Recommended behaviors always have competition, which must be understood and addressed. In this case, the competition would be current behaviors that need to be reshaped. The benefits of current and recommended behaviors must be weighed to assess the influence on the audience's actions.
- The marketplace is constantly changing, so program effects must be regularly monitored. In addition, management must be prepared to rapidly alter strategies and tactics through time.

Senior Pedestrians

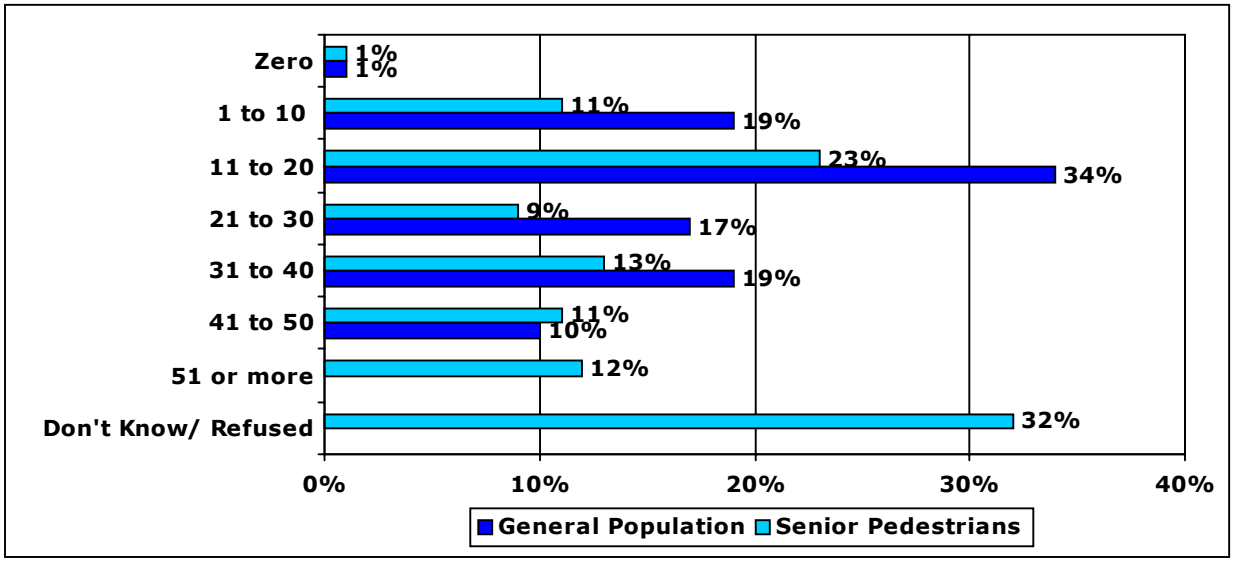
An average of 28 pedestrians die each year in Hawaii after being struck by a motor vehicle. For each of these deaths, about 20 more are injured during accidents involving other vehicles, which equates to approximately 560 pedestrian injuries within the State each year. According to 2002 statistics, Hawaii ranks fourth in the nation in pedestrian deaths per capita, an increase from the fifth rank during the year prior. For every 100,000 people in Hawaii, an average of 2.5 lose their life as a pedestrian.

Elderly pedestrians, 65 years and over, constituted the highest number of pedestrian fatalities when compared to all other age groups in Hawaii. Although they represent 11 percent of the state's population, over half of the pedestrian fatalities involved the elderly during 2002. More specifically, of the 33 pedestrian deaths in 2002, 5 were between the ages of 65 and 74, and 13 were over the age of 75.

Acceptance of Society

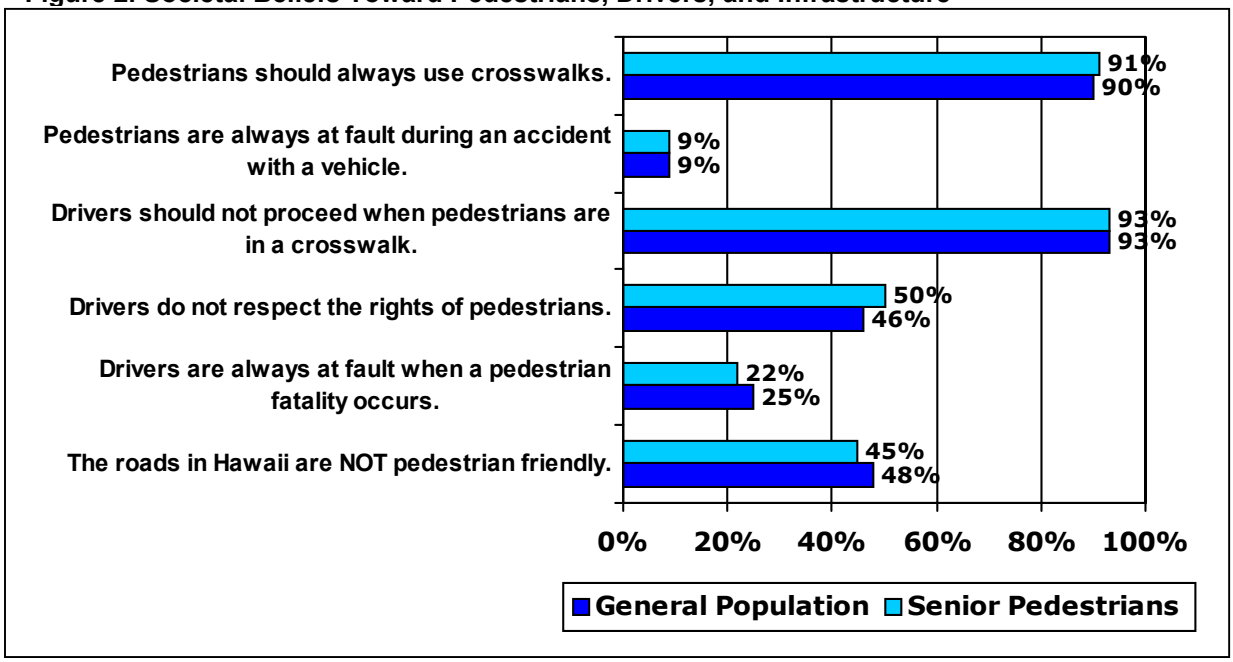
The figure below illustrates the public's awareness of the number of pedestrian fatalities in Hawaii. The majority (34%) of the responses among the general population believe that there are between 11 to 20 pedestrian fatalities each year. In addition, senior pedestrians who answered a separate telephone survey made an estimation of the annual total with 23% assuming there are 11 to 20 deaths. A closer look at the numbers reveals that the general public as well as the at risk group have underestimated the number of pedestrian fatalities since there is an average of 28 each year in Hawaii. Therefore, awareness levels of annual pedestrian fatalities are relatively low among many in the public.

Figure 1. Estimation of Pedestrian Fatalities



Margin of Error = +/- 5%

Figure 2. Societal Beliefs Toward Pedestrians, Drivers, and Infrastructure



Margin of Error = +/- 4.9%
Percentages represent "Strongly Agree" and "Somewhat Agree" responses combined

The majority of Hawaii's general population as well as senior respondents agree that pedestrians should always use the crosswalk. In this case, it does not necessarily mean that their attitudes reflect their actual actions considering the focus groups and telephone survey demonstrated that jaywalking was a bad habit among many participants. On the other side of the issue, 93% of the public agreed that drivers should not proceed when pedestrians are in a crosswalk. Again, the research has uncovered the truths behind the public's actual behavior when approaching crosswalks, with quite a few giving excuses for why they do not always stop. The results of the survey will further prove this phenomenon later in the report.

The balance of the problem between pedestrian and driver interactions weighs heavily on the driver's actions. Somewhat more, 22% versus 9%, of the general population agrees that drivers are always at fault when pedestrian fatalities occur. This attitude corresponds with the half of Hawaii's population who believes drivers do not respect the rights of pedestrians.

Furthermore, 45% of the population agrees that the roads in Hawaii are not pedestrian-friendly. Based on the public's responses, there are two sides to the interpretation of pedestrian-friendly roadways. The respondents who have positive attitudes towards Hawaii's roads based their position on the improvements in infrastructure and acknowledgement among drivers. On the other hand, those who disagree and say that the roads are not pedestrian-friendly point out the problem by saying that drivers lack respect. Below are a few selected comments that support the participants' interpretation of pedestrian-friendly roads:

"We have sidewalks, crosswalks, and traffic lights."

"Cars always stop for pedestrians at crosswalks."

"A lot of people do not obey traffic rules and regulations."

"It seems like cars just want to go and not let people cross."

Transition to Change Behaviors: Transtheoretical Model[1]

People go through a process of changing their behavior. For each person, this change varies in the amount of time and transformation process. Below is an overview of each of the five stages in the Transtheoretical Model that can apply to behavioral modifications.

- **Precontemplative**: Individuals in this stage have no intention of changing their behavior in the near future. They are also unaware of the risk they are putting themselves at risk with their current behavior. In addition, they deny the consequences of their risky behavior.

- **Contemplative**: People are aware that a problem exists and are seriously thinking about overcoming it. The downside is that they have not yet made a commitment to changing their behavior.

- **Preparation/ Decision-Making**: People intend to take action in the foreseeable future and may have attempted to change their behavior in the past.

- **Action**: People begin modifying their behavior, experiences, or environment to overcome their bad behavior. During this stage, their behavior change has been relatively recent.

- **Maintenance**: People are working to prevent relapse and maintain behavior changes over an extended time period.

Based on the majority response from the societal beliefs concerning pedestrians, drivers, infrastructure as well as fatality estimations, the general public in Hawaii seems to be approaching the Preparation Stage in the Model. Extra effort may need to be taken to make the public aware of the number of pedestrian fatalities each year. On the other hand, the majority of the population understands proper behavior as a pedestrian and driver with respect to the crosswalk. As noted, the research findings in this report will detail their actual actions, which are not always in line their attitudes. Transitions toward the positive reshaping of behaviors in the Transtheoretical Model may not be difficult considering the widespread acceptance and the proper acknowledgement of the crosswalk among the general population.

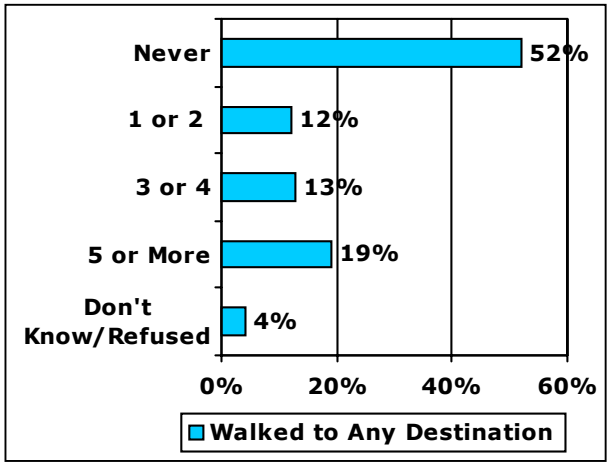
[1] NHTSA (2000)

KEY FINDINGS

Size of Walker Segments

The senior participants in the telephone survey were split into two segments based on their walking behavior within the past week. The respondents who walked at least one time within the last week of their answering the survey were classified as "frequent walkers" while those who have not walked or were unsure were considered to be "infrequent walkers." A little less than half (45%) of the participants in the survey fell into the frequent walker segment (Figure 3a). The responses from these two walker segments will be presented for comparisons throughout the report.

Figure 3a. Walking Behavior in the Past Week



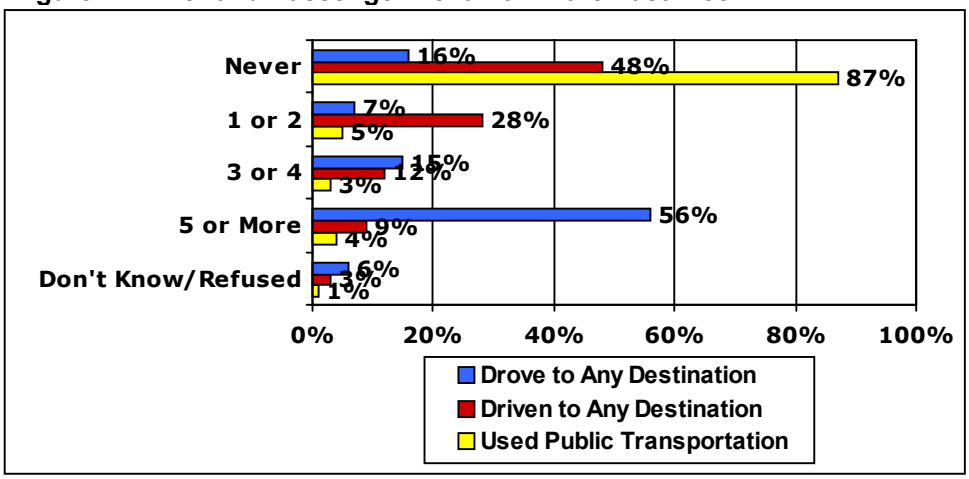
Margin of Error = +/- 4.9%

Figure 3b. Number of Walker Types Projected to Hawaii's Population

55 to 64	65 and Older
Frequent: 45% Infrequent: 55%	Frequent: 43% Infrequent: 57%
Frequent: 48,132 Infrequent: 58,829	Frequent: 69,058 Infrequent: 91,543

In Figure 3b, the walker types were further segmented into two age groups, "55 to 64" and "65 and older." The number of walker types within the two age groups was projected to Hawaii's 2000 Census in order to estimate the actual size of the four segments. Among the 55 to 64 year olds, approximately 48,132 are frequent walkers while 58,829 are infrequent walkers. For those over the age of 65, an estimated 69,058 are frequent walkers, and 91,543 are infrequent walkers.

Figure 4. Driver and Passenger Behavior in the Past Week

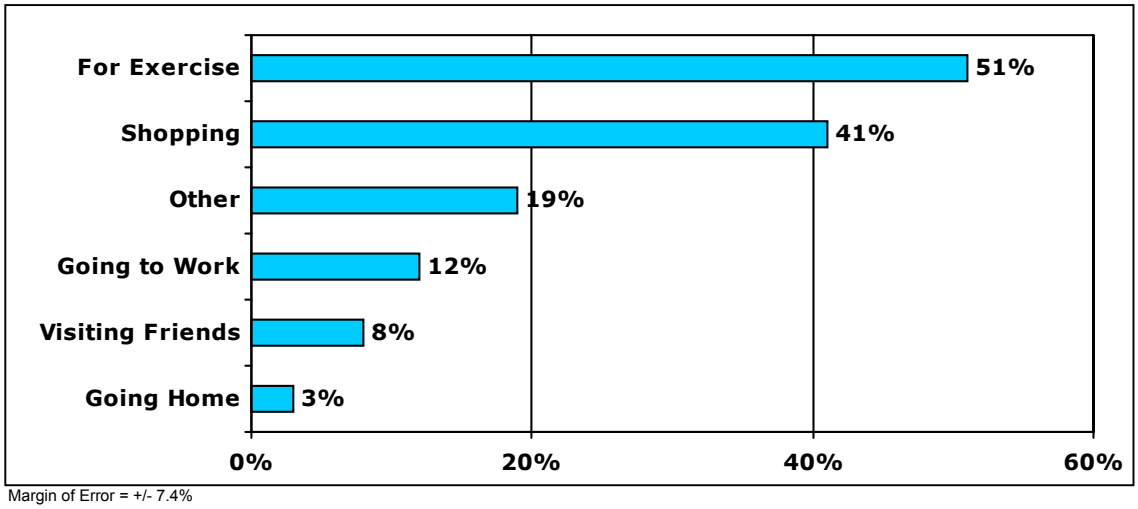


Margin of Error = +/- 4.9%

The respondents' behavior as a driver and passenger within the last week of their survey participation is presented in Figure 4. Among the three alternatives to walking, most drove to their destination, about half were driven at least once a week, and the remainder used public transportation.

Frequent Walker Behavior

Figure 5. Purpose for the Frequent Walkers



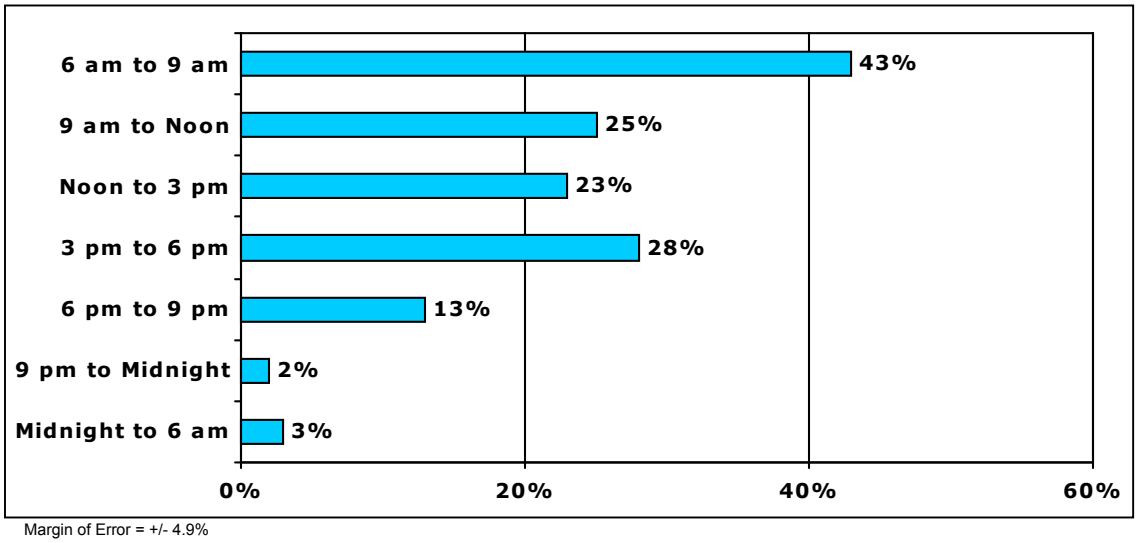
Margin of Error = +/- 7.4%

Of the participants classified as frequent walkers, 51% walked within the past week for exercise while 41% did so while shopping (Figure 5). According to other research, older pedestrian accidents tend to occur close to home, near shopping centers, or recreational venues (Oxley 2001). With most of the elderly population concentrated in metropolitan Honolulu, the combination of high traffic areas and frequented destinations create a high-risk area for pedestrians.

Based on the numbers provided by the Fatality Analysis Reporting System (FARS), half of all pedestrian fatalities in Hawaii occurred on neighborhood streets during 2002. Additional research also revealed that the neighborhood boards on Oahu with the highest total number of elderly pedestrian injuries were Kalihi-Palama, Downtown, Ala Moana, McCully/Moiliili, and Waikiki. During a focus group, a participant was also aware of the pattern, making the statement, “I noticed that many of the people who have been hit live in neighborhoods with a larger elderly population.”

In Figure 6, a relatively high percentage (43%) of the respondents walked between 6 am and 9 am. In addition, 28% of the pedestrians went to their destinations during the hours approaching dusk, 3 pm to 6 pm, while another 13% walked in the evening from 6 pm to 9 pm.

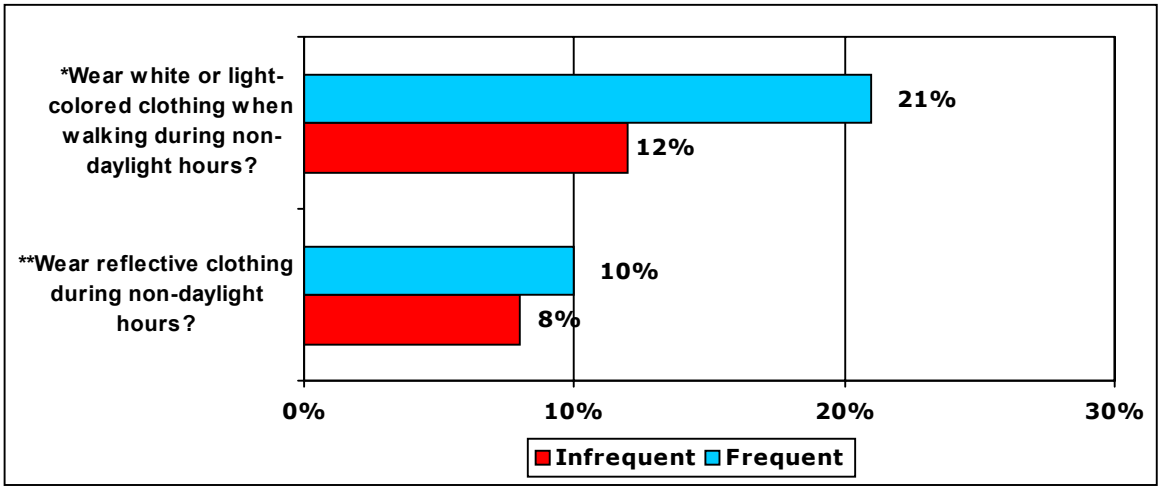
Figure 6. Time of Day Walking for the Frequent Walkers



Margin of Error = +/- 4.9%

As shown on the previous page in Figure 6, many of the pedestrians walked during hours of low visibility and minimal sunlight from 6 am to 9 am and 6 pm to 9 pm. These are the timeframes in which the majority of fatalities and injuries have occurred among the elderly pedestrians in Hawaii. The problem is that visual abilities and estimations of speeds of oncoming vehicles are decreased during non-daylight hours. One focus group participant noted, "Nighttime is more dangerous because you can't see, and there's shadows from the trees that cover the street."

Figure 7. Clothing During Non-Daylight Hours



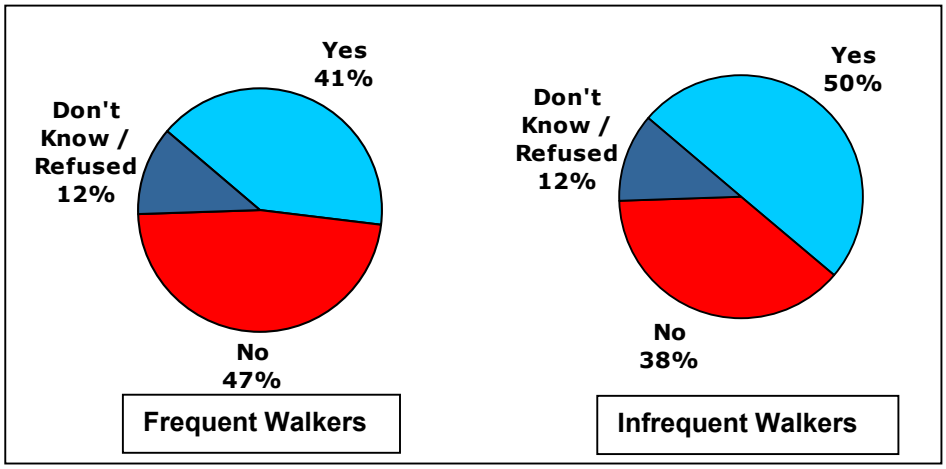
*Margin of Error = +/- 5.2%
**Margin of Error= +/- 5.1%
Percentages represent "Always" responses

In Figure 7, both the frequent and infrequent walkers responded to questions regarding the clothing they wore while walking during non-daylight hours. The frequent walkers demonstrated safer behavior by wearing light or reflective clothing compared to the infrequent walkers. Yet only 21% of the frequent walkers wore light clothing as did 12% of the infrequent walkers. In an even lesser percentage, 10% of the frequent walkers and 8% of the infrequent walkers wore reflective items during non-daylight hours. Moreover, a few focus group participants made the following statements about why they reasoned there are a higher number of pedestrian fatalities at night:

> "It's usually seniors crossing in the middle of the street with dark clothing or too slow, you know."
>
> "Quite often, they wear dark clothing."
>
> "Maybe it's their clothing. They don't have anything on there that would show them to the drivers."

Pedestrian-Friendly Roads

Figure 8. Consider Roads and Streets in Hawaii to be Pedestrian-friendly

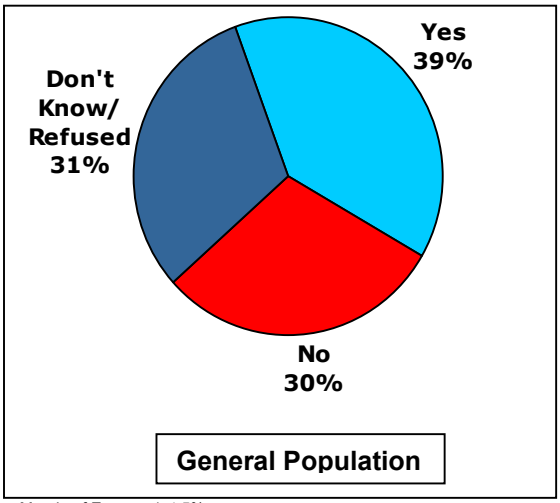


Margin of Error = +/- 5.1%

Figure 8 provides responses regarding the pedestrian-friendliness of roads and streets in Hawaii. In comparison, more infrequent walkers (50%) responded positively than frequent walkers (41%). As stated earlier, respondents interpreted pedestrian-friendliness on two dimensions, improvements in infrastructure as well as respect from drivers. Respondents between both walker segments demonstrate that there is a definite problem in Hawaii with 47% of the frequent walkers and 38% of the infrequent walkers believing the roads and streets are not pedestrian-friendly.

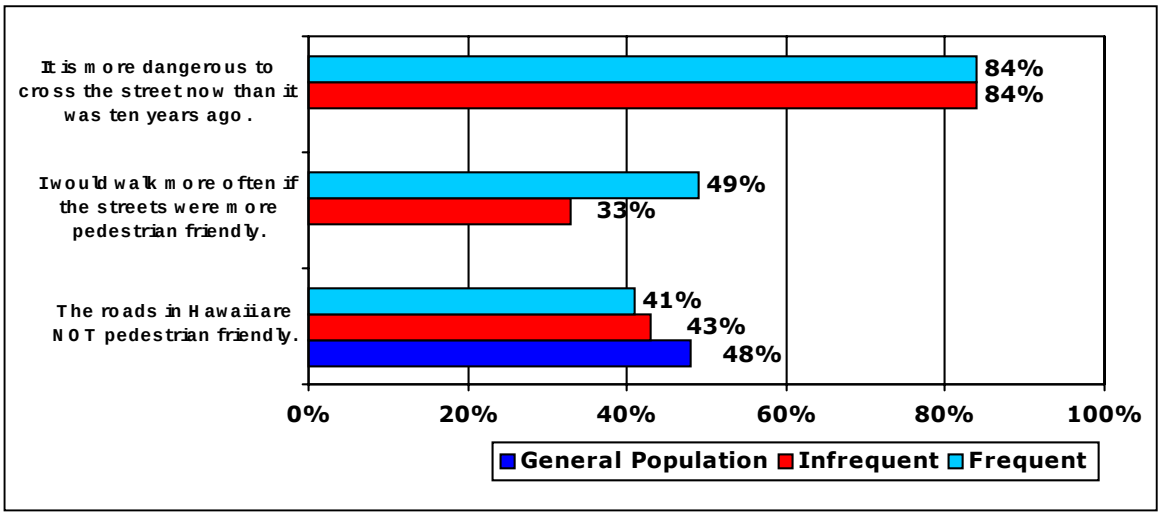
In the figure below, a similar question was asked of respondents who participated in a separate survey that covered all age groups within the general population. Of the respondents living with individuals over the age of 65, slightly more than a third (39%) felt the elderly in their household were safe as pedestrians. Likewise, this question supports the problem of a negative perception of pedestrian-friendly communities in Hawaii.

Figure 9. Feel Others in Household over 65 are Safe As Pedestrians



Margin of Error = +/- 4.5%

Figure 10. Pedestrian-friendly and Safe Streets



Margin of Error = +/- 4.9%

Percentages represent "Strongly Agree" and "Somewhat Agree" responses combined

Continuing with pedestrian-friendly communities, Figure 10 provides the two segments' levels of agreement with three interrelated questions. In the first question, respondents were asked if it is more dangerous to cross the street now than it was ten years ago, and 84% of the frequent walkers agreed along with an equally high percentage of infrequent walkers. In an expert interview, one respondent expressed that the roads have changed because there was less traffic ten to twenty years ago, yet some elderly still continue with their bad pedestrian habits. Another participant in a focus group said in a similar statement that, "There's a lot more cars on the road than there was 20 years ago."

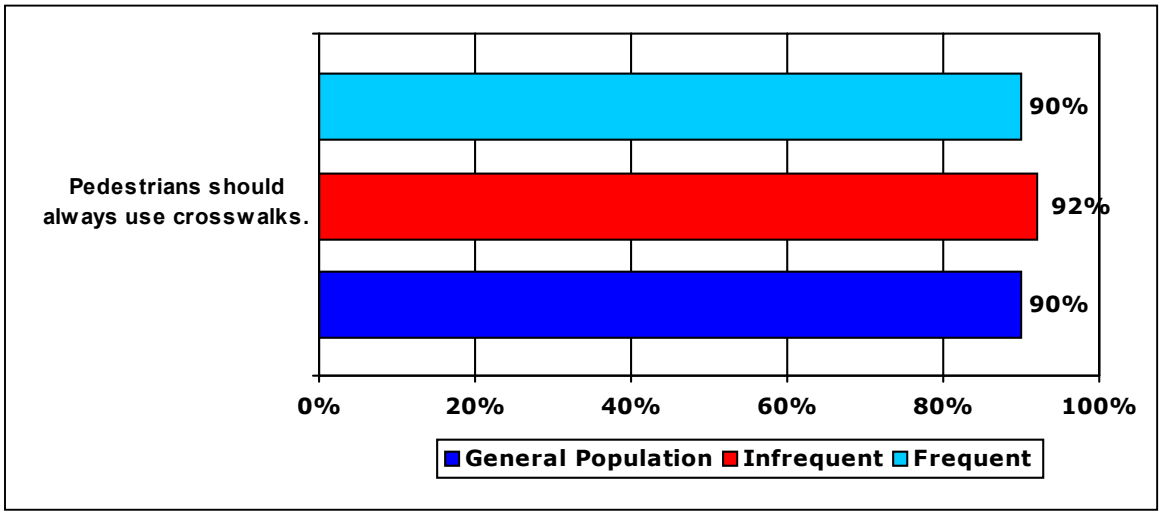
Furthermore, the participants were asked if they would walk more often if the streets were more pedestrian-friendly. About half (49%) of the frequent walkers agreed with walking more often while a third (33%) of the infrequent walkers would change their walking habits. It should also be noted that some respondents already agreed that the streets in Hawaii were pedestrian-friendly and may be already walking as often as possible.

The final question in Figure 10 is restated from the societal beliefs section earlier in the report, but the responses among the two walker segments have been split. Across all age groups, almost half (48%) of the respondents in the general population believe the roads in Hawaii are not pedestrian-friendly. About the same percentage of the frequent (41%) and infrequent (43%) walkers had a negative perception of Hawaii's roads.

Problems at the Crosswalk

This next section of the report covers various aspects of the crosswalk from design to acknowledgement by both drivers and pedestrians. Through each stage of the research process thus far, crosswalks have been identified as the central issue that heavily influences attitudes and behaviors of pedestrians. The findings presented throughout this section will demonstrate why subsequent phases in the social marketing process will revolve around improvements in the crosswalk's structure as well as respect.

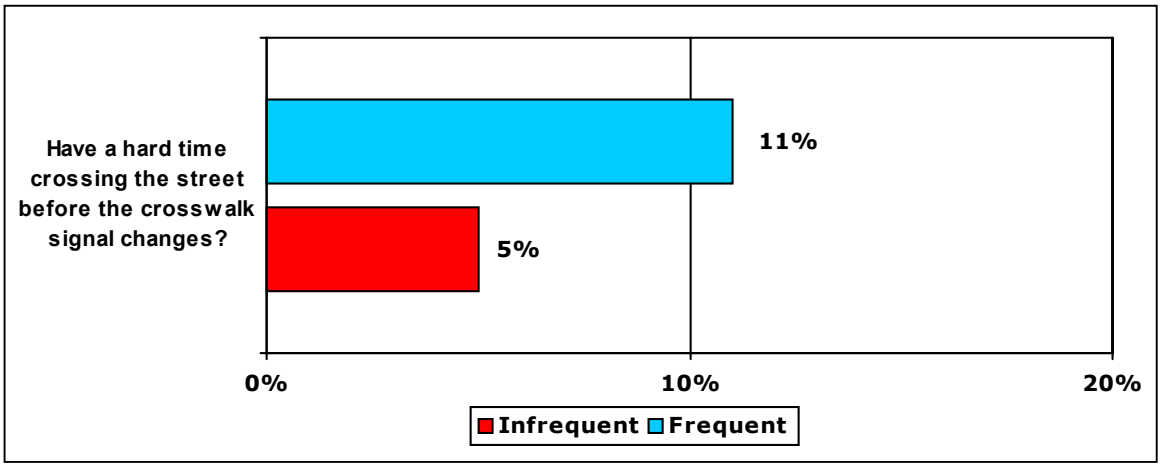
Figure 11. Society's Belief Toward Crosswalks



Margin of Error = +/- 4.9%
Percentages represent "Strongly Agree" and "Somewhat Agree" responses combined

Figure 11 has been restated from the societal belief section, but the walkers segments have been separated for comparison. Again, the majority of Hawaii's general population as well as the two walker types agree that pedestrians should always use crosswalks. Following the crosswalk section, responses toward jaywalking activities will reveal that there is a high percentage of pedestrians who do not always use the crosswalk. Therefore, the goal of the social marketing process will be to closely align pedestrians' walking behavior with their attitudes, which will ultimately increase compliance with proper crosswalk usage.

Figure 12a. Crosswalk Timing



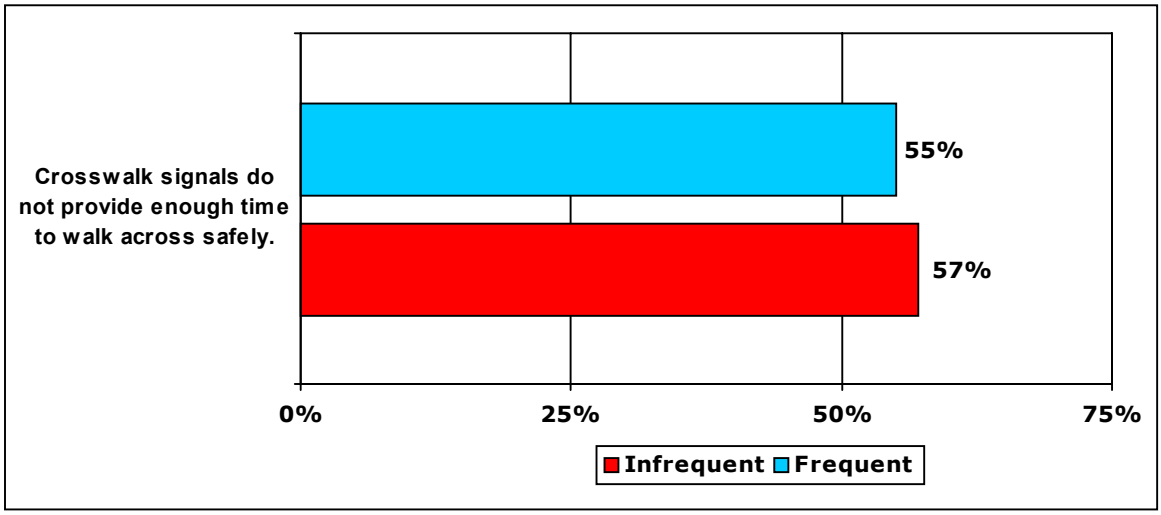
Margin of Error = +/- 4.9%
Percentages represent "Always" responses

The next issue regarding crosswalks relates to design. A small percentage (11%) of the frequent walkers always have a hard time crossing the street before the crosswalk signal changes while 5% of the infrequent walkers have a similar problem. Two participants from the focus groups go into further detail about signalized crosswalk timing with the following comments:

> "One thing when you have the Walk Sign on and before you get halfway across the street, the Don't Walk Sign comes on."

> "I feel sorry for the very elderly. They don't even make it a quarter of the way across the street before the light changes."

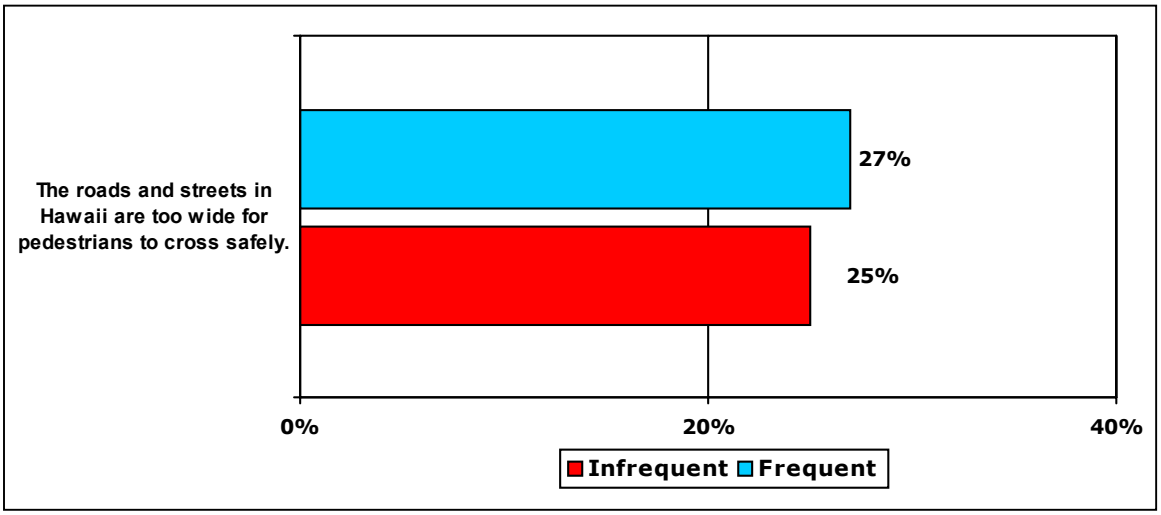
Figure 12b. Crosswalk Timing



Margin of Error = +/- 4.9%
Percentages represent "Strongly Agree" and "Somewhat Agree" responses added together

In Figure 12b, a similar question was asked about crosswalk timing, which corresponds to the participants' levels of agreement. More than half (55%) of the frequent walkers agreed that the crosswalk signals do not provide enough time to walk across safely, and 57% of the infrequent walkers agreed to the same statement. Considering the slowed speeds caused by aging, limited timeframes to cross the street safely put elderly pedestrians at risk in high traffic areas. To counter the problem, the length of time at signalized crosswalks could increase, but that will bring the burden of traffic congestion with longer waits for drivers at stoplights.

Figure 13. Crosswalk Location



Margin of Error = +/- 4.9%
Percentages represent "Strongly Agree" and "Somewhat Agree" responses combined

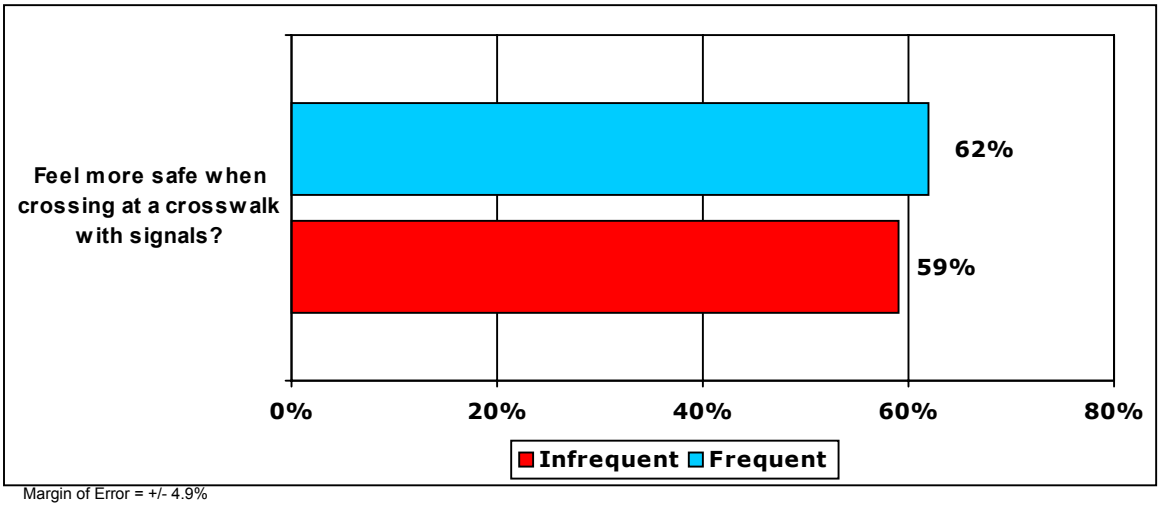
Another possible problem with crosswalk design is its location and width. According to 27% of the frequent walkers, the roads and streets in Hawaii are too wide for pedestrians to cross safely. Another 25% of the infrequent walkers agreed with the width of streets statement. A couple of participants from the focus group went into further detail with the following two statements about the location of crosswalks:

> "Some of the crosswalks just don't make sense. For example, King Street by Long's down by Zippy's. Here's this crosswalk in the middle of the block for no apparent

reason. Usually crosswalks are at intersections, and do people use that? No. They go across where they believe it's safe. It's four lanes or five lanes across."

"How does the Department of Transportation decide where to put a crosswalk? Is it a safe place or a lighted place? When I walk across the street, the crosswalk is never in the right place. I either have to walk all the way down there, and I think, 'Who thought of this? Why would they want to put it where nobody wants to walk?'"

Figure 14. Crosswalk Visibility



Margin of Error = +/- 4.9%
Percentages represent "Always" responses

When comparing crosswalk types, a high percentage of the frequent (62%) walkers and infrequent (59%) walkers always feel that it is more safe crossing at a signalized crosswalk than one without signals. A few focus group participants explained why it is sometimes a problem at crosswalks without signals in the following comments:

"When you cross in a crosswalk with a light, cars will stop 99% of the time. When you cross on a street that just has a crosswalk, cars don't stop for several reasons. One, the crosswalks aren't painted properly, and many are in very poor condition. Two, they don't have signs pointing that there are crosswalks in the area… The signs will stay in better condition than the paint on the road."

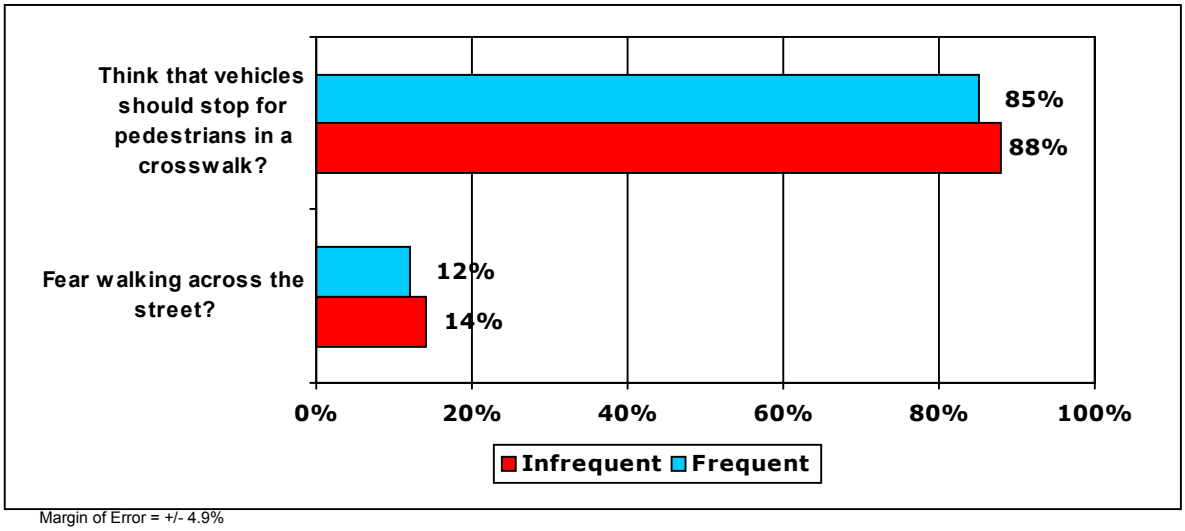
"Crosswalks can be anywhere. Sometimes the markings wear off and there's no sign showing that there's one there."

"When it rains, you can't see the crosswalks with the lights."

"You know, you can't see crosswalks at night. They should use luminous material."

According to the responses, the pedestrians acknowledged that poor crosswalk maintenance leads to the lack of visibility from motorists. A couple of the respondents favored signs pointing out the crosswalk rather than a coat of paint, which would wear off over time. In addition, visibility at night and during rain becomes more of a problem, so a participant suggested luminous material to help drivers see crosswalks.

Figure 15a. Crosswalk Respect



Margin of Error = +/- 4.9%
Percentages represent "Always" responses

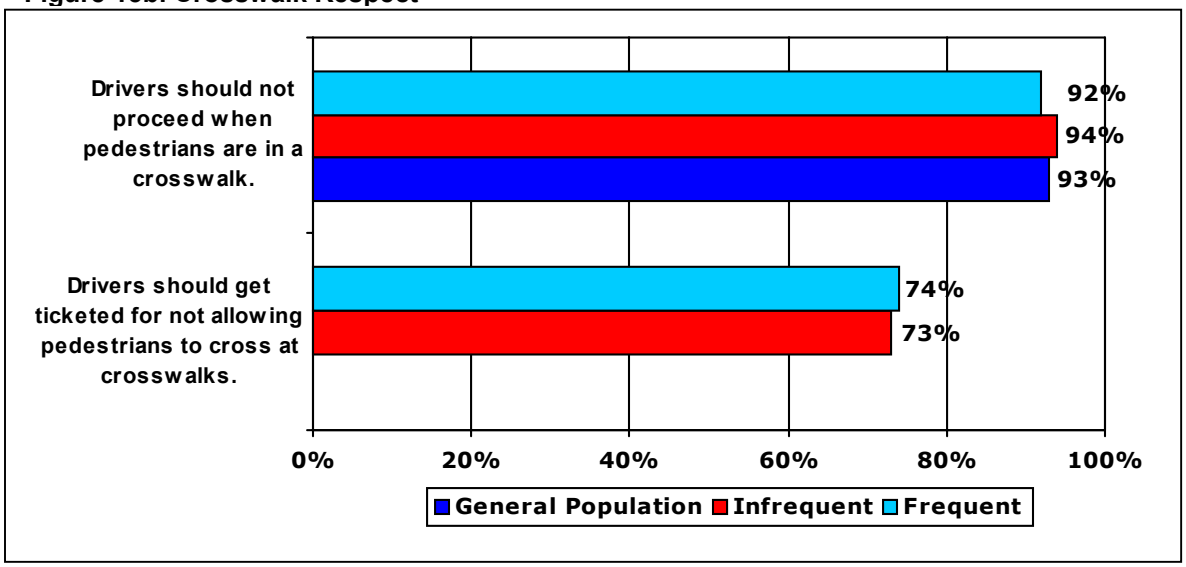
Similar to the crosswalk acknowledgement question stated in the societal beliefs section earlier in the report, the majority of the frequent (85%) and infrequent (88%) walkers think that vehicles should always stop for pedestrians in a crosswalk. On the other hand, there is more than 10% of the population who have exceptions to always stopping. Without total acknowledgement of the crosswalk among all drivers in Hawaii, it is no surprise why 12% of the frequent walkers and 14% of the infrequent walkers always fear walking across the street.

According to recurring responses in the expert interviews, a lot of the blame for this fear was due to the lack of attention among drivers. The experts continued by saying that some drivers in Hawaii have reached a point where they no longer acknowledge pedestrians stepping into a crosswalk. One person questioned whether or not this was a social norm developed among drivers in Hawaii. He explained that in California, drivers always stopped when someone stepped into a crosswalk. This same issue was supported by comments made by a military safety official who said that cars always stopped for pedestrians before they even reached a crosswalk. The military pedestrians are then put at risk when walking while off the military base because they expect drivers to react in the same conscientious manner. Another interviewee reasoned that an ambiguous law on right-of-way at a crosswalk caused the problem.

Both pedestrians and drivers in the focus groups also had similar comments about the problem with crosswalk acknowledgement in the following quotes:

> "Crosswalks are not respected like they were ten years ago."
>
> "I notice sometimes people don't slow down when people are crossing the street. They just keep their speed up, and you have to run."
>
> "I've had to go out there and made them stop when I was in a crosswalk, and I know that's dangerous."
>
> "From a driver's perspective, I'm willing to stop, but is the joker behind me going to stop when I do?"
>
> "When I stop at a crosswalk, I look in my rearview first to see if cars are coming. If there are cars speeding, then I don't stop because I know this other guy is not going to stop. I would never want to get into a situation where I stop at a crosswalk and somebody gets hit [by an approaching vehicle]."

Figure 15b. Crosswalk Respect



Margin of Error = +/- 4.9%

Percentages represent "Strongly Agree" and "Somewhat Agree" responses combined

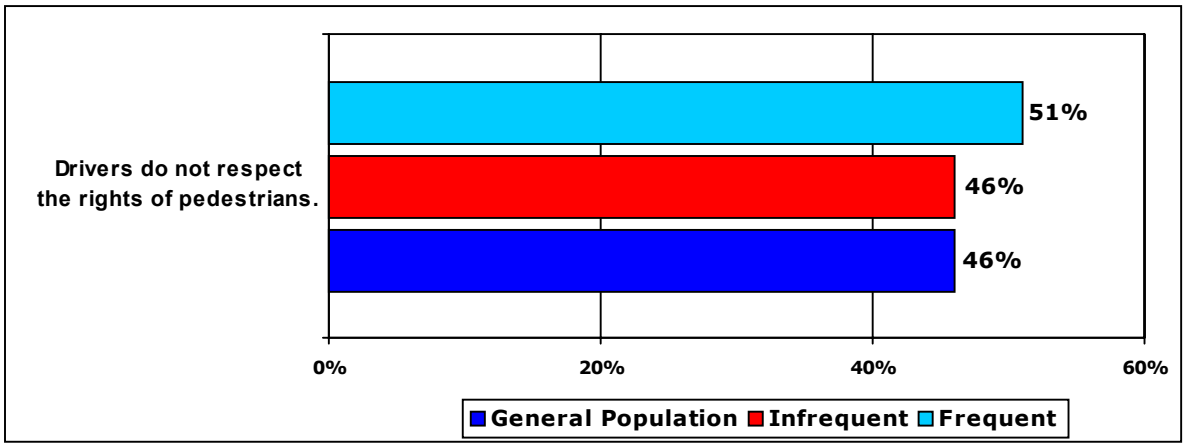
In Figure 15b, the question regarding drivers not proceeding has been restated from the societal beliefs section of the report, but the responses have been split between the two walker segments. Both frequent (92%) and infrequent (94%) walkers have similar attitudes toward proper driver behavior. Furthermore, about three quarters of the respondents in both segments agree that drivers should get ticketed for not allowing pedestrians to cross at a crosswalk. In the following comments, focus group participants describe their experiences as pedestrians and drivers at a crosswalk:

> "I've actually been in the crosswalk and had people drive by me."
>
> "There are times I stop at a crosswalk, and the pedestrian doesn't want to walk across and they say, 'Nah uh, you go.' They just don't trust."
>
> "Where I'm from, if you don't stop then you get a ticket. When I stop here, I have people looking at me strange like, 'Oh, you stopped?'"
>
> "I think it's only fair if we stop at a crosswalk. We should get the same thing when we're walking."

According to the comments, it seems that some pedestrians have become so accustomed to drivers going past them at crosswalks that they are sometimes hesitant to walk across when drivers stop. In addition, one respondent felt they should receive the same courtesy as a pedestrian if they stop for people when they are drivers.

Respect Between Drivers and Pedestrians

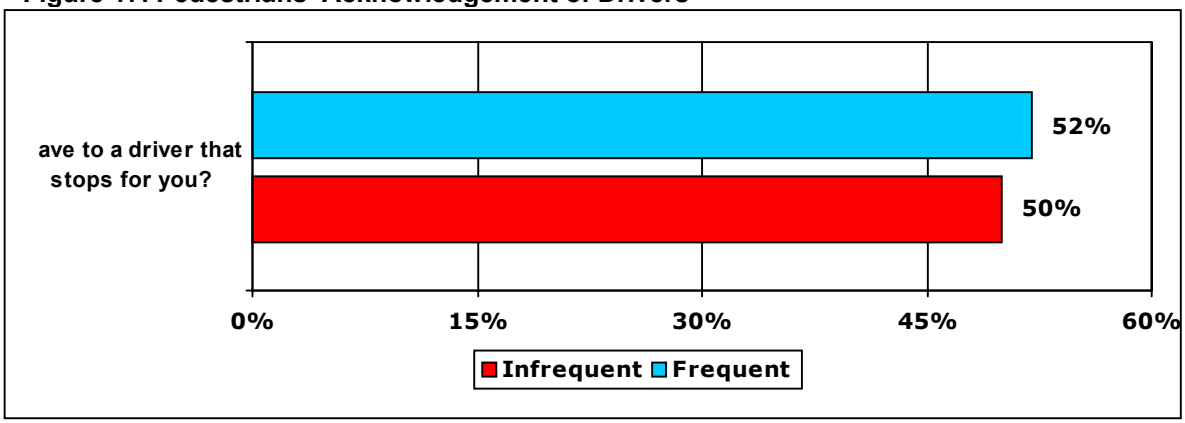
Figure 16. Drivers' Respect Toward Pedestrians



Margin of Error = +/- 4.9%
Percentages represent "Strongly Agree" and "Somewhat Agree" responses combined

Figure 16 has been restated from the societal beliefs section, but the walkers segments have been separated for comparison. Responses from frequent walkers (51%) are slightly higher than the infrequent walkers (46%) and the general population (46%) when asked if they agreed that drivers do not respect the rights of pedestrians.

Figure 17. Pedestrians' Acknowledgement of Drivers



Margin of Error = +/- 4.9%
Percentages represent "Always" responses

In Figure 17, pedestrians are asked about their acknowledgement toward drivers. In response to waving to a driver that stops, 52% of the frequent walkers always do so compared to 50% of the infrequent walkers who always acknowledge drivers. Simple courtesy such as waving may influence drivers to stop for the next pedestrian in the crosswalk.

According to the following comments provided by focus group participants, it seems pedestrians feel that they have earned their respect:

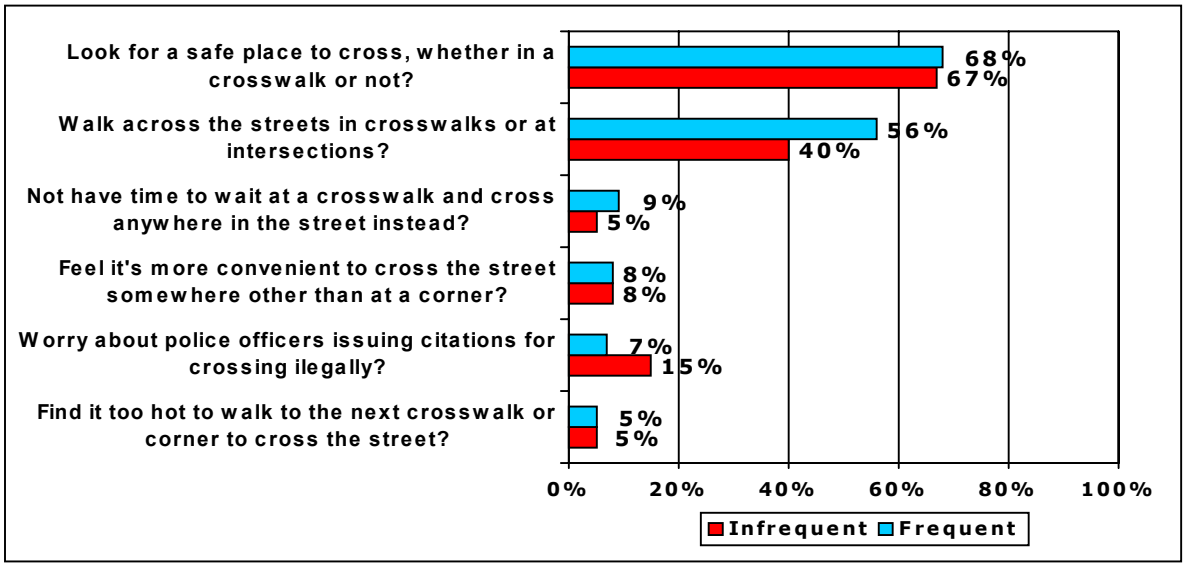
> "My mom is 80, and she feels she has earned the right to walk anywhere she wants regardless if there's a crosswalk or cars there. Certain seniors think they own the road."

> "They feel that people will stop for them because they're so old."

According to the two focus group comments, it seems like the pedestrians are taking their right-of-way privileges for granted. Without mutual respect between drivers and pedestrians, problems with acknowledgement at the crosswalk may continue.

Jaywalking

Figure 18. Jaywalking Behavior



Margin of Error = +/- 4.9%
Percentages represent "Always" responses

Figure 18 presents a series of questions related to jaywalking. In the first question, about 68% of the frequent and infrequent walkers always look for a safe place to cross whether in a crosswalk or not. Moreover, the next question demonstrates that frequent walkers (56%) practice safer behaviors than infrequent walkers (40%) by always walking across the street in crosswalks or at intersections. Figure 19 below takes a closer look at the jaywalking problem with breakdowns by age. Across both age groups, there is a higher percentage of jaywalkers, those who use a crosswalk most of the time to never, versus those who always use a crosswalk. An estimated number of jaywalkers was also projected to two age groups in Hawaii with 63,109 between the ages of 55 to 64, and 83,513 over the age of 65.

Figure 19. Number of Jaywalkers Projected to Hawaii's Population

55 to 64 Use Crosswalk	**65 and Older** Use Crosswalk
Always: **41%** Most of the Time to Never: **59%**	Always: **48%** Most of the Time to Never: **52%**
Always: **43,854** Most of the Time to Never: **63,109**	Always: **77,088** Most of the Time to Never: **83,513**

The remaining four questions in Figure 18 cover excuses and citations for jaywalking. Less than one in ten of the frequent walkers (9%) and infrequent walkers (5%) never have time to wait at a crosswalk and cross anywhere in the street instead. Moreover, 8% of the two walker segments feel it is more convenient to cross the street somewhere other than at a corner. About one in twenty (5%) of the walkers find it too hot to walk to the next crosswalk or corner to cross the street. Lastly, citations appear to make more of an impact on infrequent walkers (15%) versus frequent walkers (7%) while they cross illegally.

Considering the high percentage of pedestrians who do not always use a crosswalk, it should be no surprise that 36% of the pedestrian fatalities in Hawaii during 2002 were caused by improper crossing of roadways and intersections. According to statements in the expert interviews, many pedestrians cross the street wherever they perceive it to be safe, which does not necessarily mean within a crosswalk. One reason this has become the norm in Hawaii may be due to the infrequency of jaywalking citations. The low percentage of pedestrians that worried about citations based on the survey backs the expert's reasoning. It was also said that jaywalking is done for convenience instead of taking the time to wait at the nearest crosswalk. One expert questioned if pedestrians did not use crosswalks because it did not improve their level of safety, given inattentive drivers.

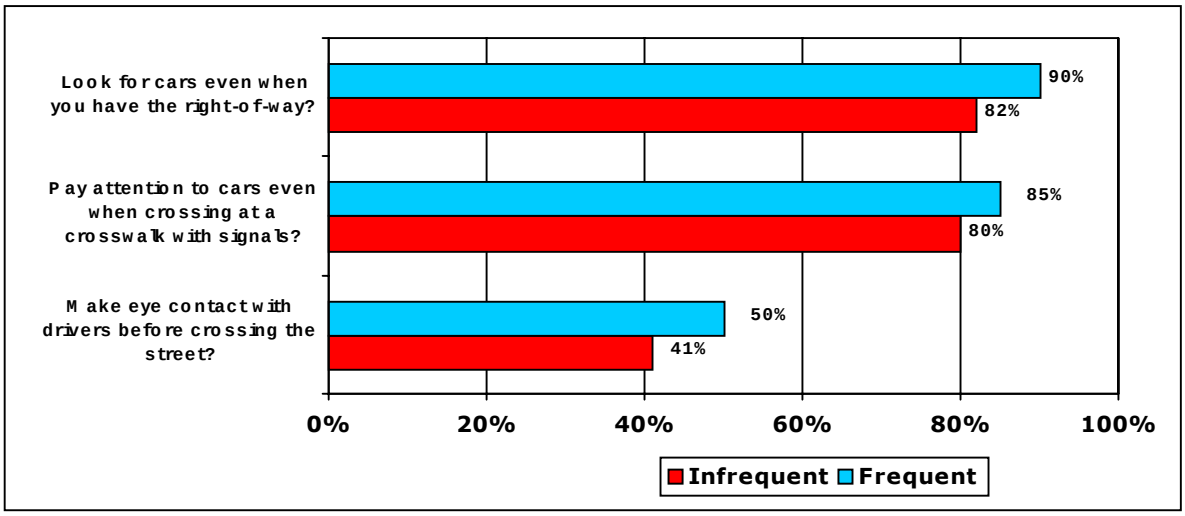
In the focus groups, the participants admitted to their own jaywalking behavior and gave reasons for their actions. Their selected statements are as follows:

> "We're willing to take the risk."
>
> "They would take the chance of crossing a fifty foot street rather than walk to the next crosswalk."
>
> "It's not just senior citizens, it's everybody."
>
> "I walk occasionally across Pali Highway to catch the bus, and I have to admit, I jaywalk because the bus stop is half a block from the corner. You literally have to walk half a block one way and another half a block the other way to get to the bus stop. I, and I've seen many people, do it."
>
> "I jaywalk when it's inconvenient to go all the way around to get to the bus stop."
>
> "I'd look to see if there was a cop around, and I'd go anyway instead of going to the end of the block."
>
> "If there's no cars, I don't see why there's a reason to walk all the way to the end of the block. I usually just go."
>
> "There's been a lot of reported deaths in the paper this year about people crossing the street and being hit by cars. I think most of those people were jaywalking. Then it's their own fault."

Based on the statements, the pedestrians seem to take responsibility for their actions and perceive that the benefits of crossing the street conveniently outweigh the risk.

Attentiveness and Responsibility Among Pedestrians and Drivers

Figure 20. Attentiveness Among Pedestrians



Margin of Error = +/- 4.9%
Percentages represent "Always" responses

Figure 20 presents three statements regarding attentiveness from the pedestrian's standpoint. From each of the responses, frequent walkers appear to exhibit safer behavior compared to the infrequent walkers. In the first behavior, 90% of the frequent walkers and 82% of the infrequent walkers always look for cars even when they have the right-of-way. Similarly, a higher percentage of frequent walkers (85%) compared to infrequent walkers (80%) pay attention to cars even when crossing at a crosswalk with signals. The percentages drop significantly to 50% of the frequent walkers and 41% of the infrequent walkers who always make eye contact with drivers before crossing the street.

Other research has found that older pedestrians over-represent unsafe crossing behavior by crossing the first half of the street and not considering the outcome of the second half of the street (Carthy et al. 1995). Similar to the study's findings, a few experts interviewed pointed out that some pedestrians walked into traffic without looking in both directions, a basic practice taught during early adolescence. Additional statements from the focus groups relating to pedestrian attentiveness are stated below:

> "If you're a pedestrian, it would be stupid to have the right of way and not look."
>
> "You have to walk defensively."
>
> "I go out of my way to get to a crosswalk, but I still watch for cars."
>
> "I feel safe, and I watch the lights very carefully because I know that when the cars go where I want to go, I can probably cross unless the cars want to make a right turn."
>
> "I would be careful stepping off of the curb. I would look. The important thing is to maintain eye contact."
>
> "Make eye contact and acknowledge the driver and don't assume that they can see you."
>
> "Yes, you want to be conscious of what's around you."

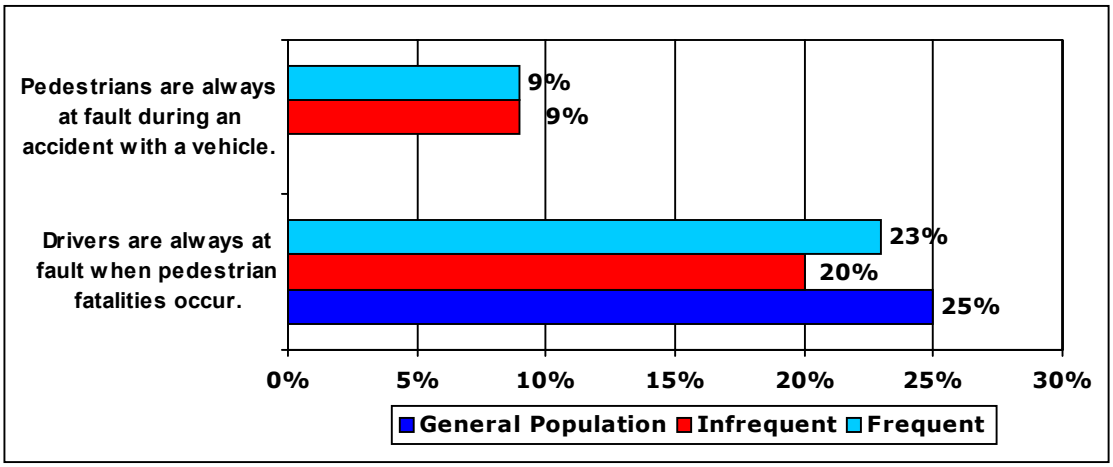
Aside from the pedestrians, a few drivers in the focus group admitted to their bad behavior in the following comments:

> "I think many drivers are preoccupied with something else."
>
> "Sometimes I daydream or talk on the phone."
>
> "I talk on the phone… I don't drive fast when I'm not fully aware of what I am doing."

A historic study found that drivers rarely checked for pedestrians, proceeded through intersections without slowing, appeared to over-estimate a pedestrian's ability to react in traffic situations, and only reduced speeds when around a large group of pedestrians (Thompson, Fraser, and Howarth 1985). A more recent study by Stutts, Hunter, and Pein (1996) revealed that 55 percent of crashes in the six US states that were studied were driver-related. These include:

- Hit and run (16%)
- Failed to yield to pedestrian (15%)
- Exceeded speed limit or safe speed (6%)
- Improper backing (6%)
- Safe movement violation (5%)
- Inattention or distraction (4%)
- Reckless driving (3%)
- Alcohol impairment (3%)

Figure 21. Responsibility During Accidents



Margin of Error = +/- 4.9%

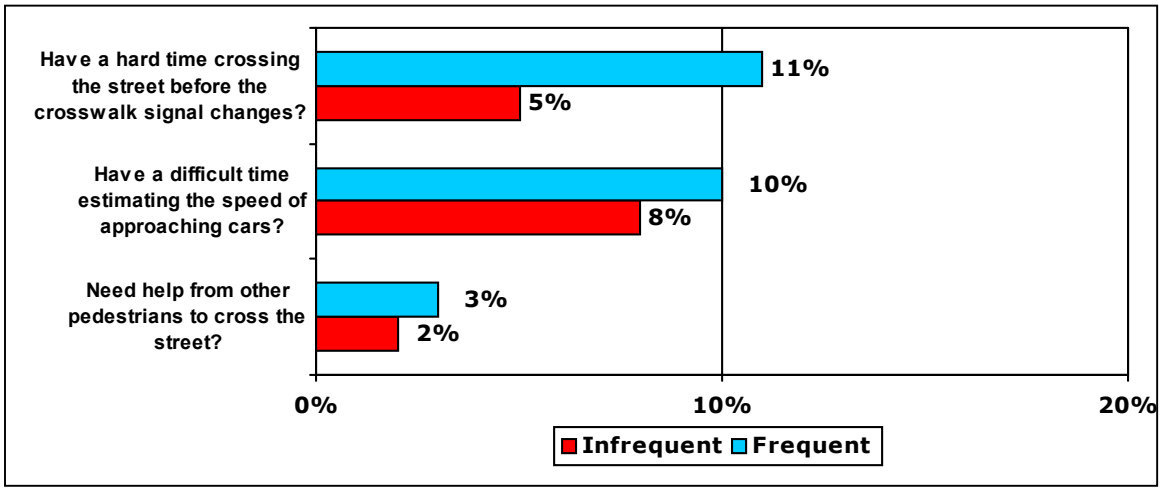
Percentages represent "Strongly Agree" and "Somewhat Agree" responses combined

Responsibility during a pedestrian fatality is presented in Figure 21. The responses among the walker segments place more of the blame on the driver. About one in ten (9%) respondents agreed that pedestrians are always at fault during an accident with a vehicle. On the other hand, nearly a quarter of the frequent walkers (23%) and a little less of the infrequent walkers (20%) agreed that drivers are always at fault when pedestrian fatalities occur. One fourth (25%) of the general population also agreed that drivers were at fault.

Most of the safety experts believed it was a shared responsibility between drivers and pedestrians. One expert suggested that awareness should be increased among drivers for elderly pedestrian behavior. Likewise, elderly pedestrians may need reinforcement of proper safety practice. This may pose a difficult situation as stated in a respondent's use of the old adage, "You can't teach an old dog new tricks."

Diminishing Physical Abilities

Figure 22. Physical Abilities of Pedestrians



Margin of Error = +/- 5%
Percentages represent "Always" responses

One problem contributing to the responsibility of pedestrians relates to diminishing physical abilities. About one in ten (11%) of the frequent walkers have a hard time crossing the street before the crosswalk signal changes compared to 5% of the infrequent walkers with the same difficulty. An equally small percentage of frequent (10%) and infrequent walkers (8%) have a difficult time estimating the speed of approaching cars. Last, a relatively few walkers always need help from other pedestrians to cross the street. Based on the responses, more of the frequent walkers may realize their limitations compared to the infrequent walkers. Although small percentages of the respondents have difficulties due to their physical abilities, these factors are one of the major contributors to the problem of elderly pedestrian fatalities.

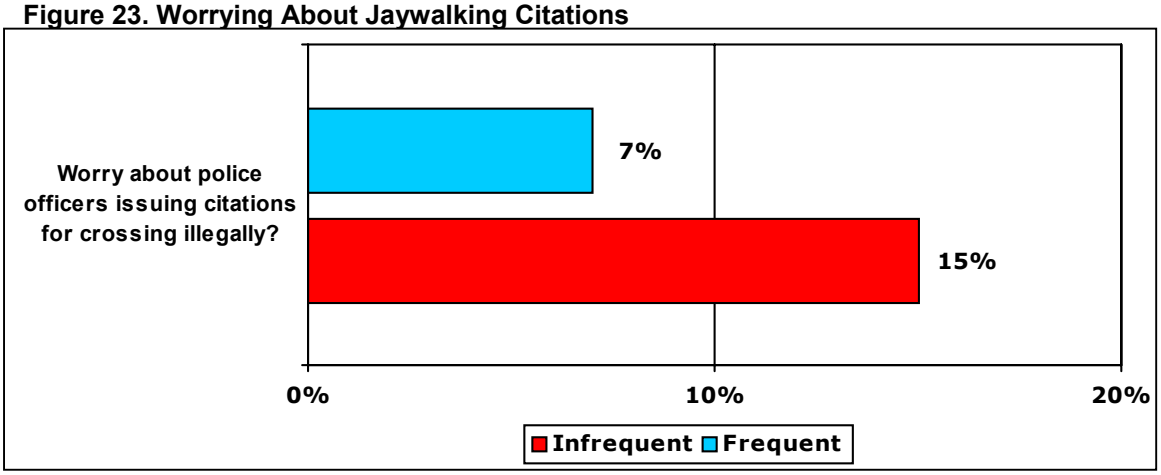
Pedestrians age 65 and older are more than five times as likely to die in crashes than pedestrians age 14 or less, and the likelihood of death increases steadily for ages in between. This is a result of muscular and skeletal weakening, so the elderly lose agility and endurance, which decreases their ability to react quickly when they need to get out of the way from approaching traffic. Moreover, arthritis sufferers experience severe pain and restrictions in their ranges of motion. This may impair head and body movement to look around, and it also results in difficulties walking.

In addition, changes in perceptual, cognitive, and motor abilities occur as a person ages, which affects an elderly person's judgment and performance when faced with a crossing situation. This requires a pedestrian to have good motor skills to cross quickly. According to another study, the majority of older pedestrians in Sheppard and Pattinson's (1988) study complained about difficulties crossing when traffic was dense and moving quickly, focusing their eyes in traffic, and understanding road complexities such as joins and traffic light patterns. Respondents from the focus groups also realized the problem of diminishing physical abilities in the following comments:

> "They don't see and hear very well."
>
> "I think it's two things. The elderly walk very slowly, and the driver is not paying attention."

Preventative Measures

Figure 23. Worrying About Jaywalking Citations

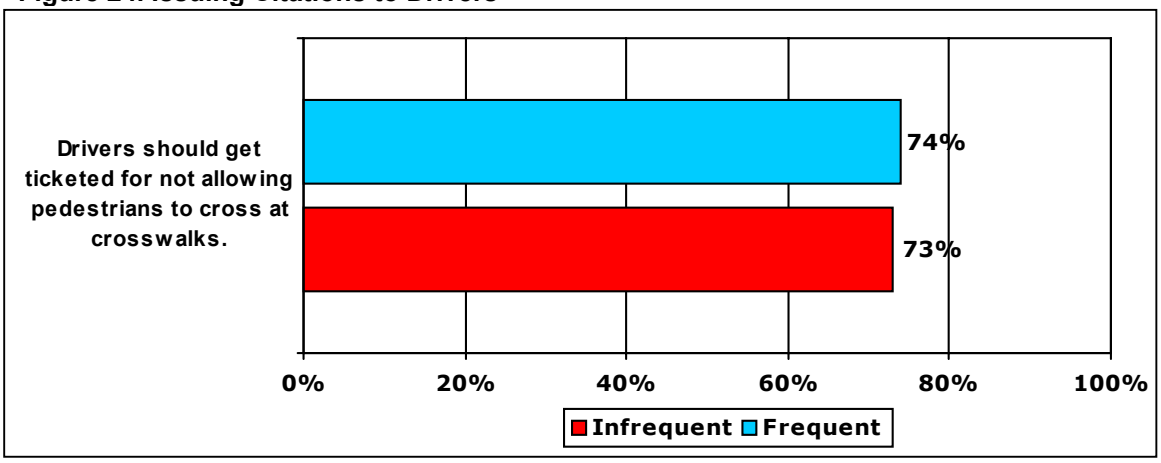


Margin of Error = +/- 4.9%
Percentages represent "Always" responses

Figure 23 is restated from earlier in the report to evaluate the impact of jaywalking citations. Again, infrequent walkers (15%) versus frequent walkers (7%) worry more about police officers issuing citations for crossing illegally. Some of the experts interviewed blamed the lax attitude of jaywalkers on the minimal law enforcement and infrequency of citations.

Figure 24 questions whether or not drivers should get ticketed for not allowing pedestrians to cross at crosswalks. Nearly three quarters of the two walker segments agreed that drivers should be cited.

Figure 24. Issuing Citations to Drivers



Margin of Error = +/- 4.9%
Percentages represent "Strongly Agree" and "Somewhat Agree" responses combined

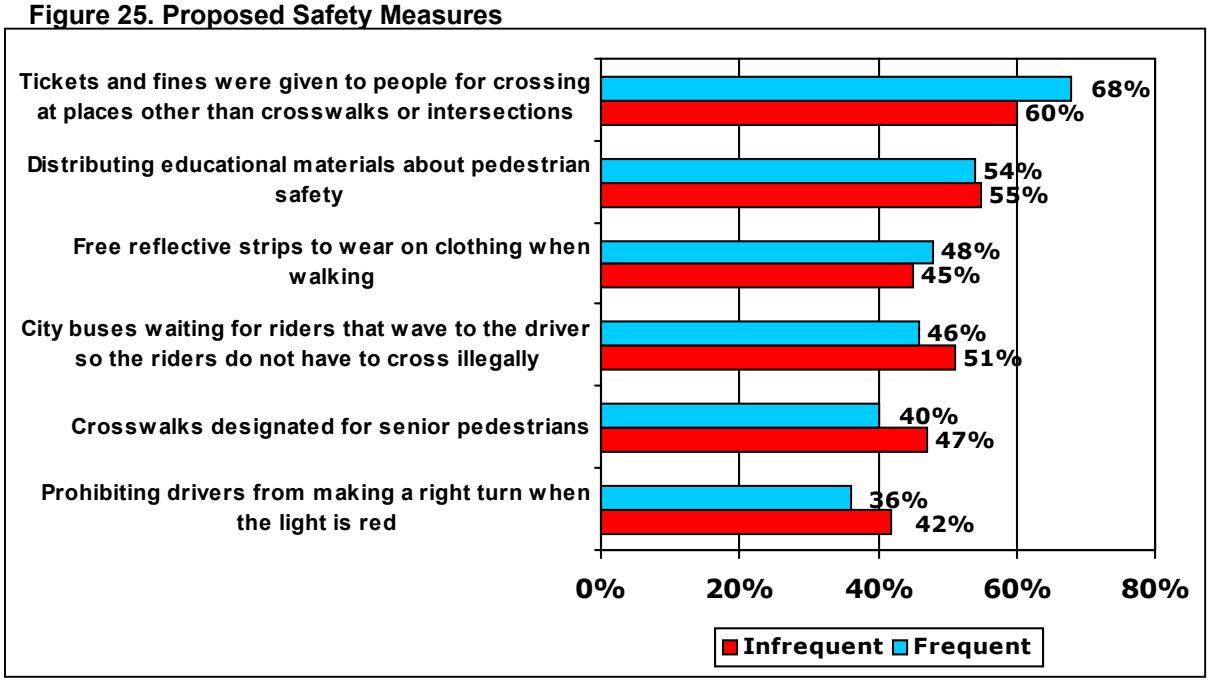
A few focus group participants explained why pedestrians and drivers neglect to abide by the law in the following statements:

> "It wouldn't make a difference if they raise the fine because they don't enforce it anyway."

> "What happens when a law doesn't get enforced? It doesn't remain a law very long. People ignore it."

> "I agree with education in the initial phases when we start to change habits, but ultimately in order to get their attention it will have to be enforcement."

Figure 25. Proposed Safety Measures



Margin of Error = +/- 4.9%

Percentages represent "Strongly Likely" and "Somewhat Likely" responses combined

Figure 25 reports a group of proposed safety measures that would possibly encourage safe pedestrian behavior. Tickets issued to jaywalkers made the most impact with 68% of the frequent walkers and 60% of the infrequent walkers agreeing it would increase safety. Educational materials appear to be effective among the frequent walkers (54%) and the infrequent walkers (55%). During the focus group, there was recurring support for education as stated in the following comments:

> "We need education. We have education. We have streets that are driver friendly and not pedestrian friendly… I know in many cities, the bicyclist and pedestrian are just as highly respected as the drivers, not here. It's a lack of education."
>
> "You're talking about driver's education. Start in schools with driver's ed. Make them aware at that particular point and time because this is a new generation of drivers."
>
> "How about education for both pedestrians and drivers? Lets show the kids and adults what happens."
>
> "Education has to come first. If you're not smart enough to learn, then they'll ticket you."

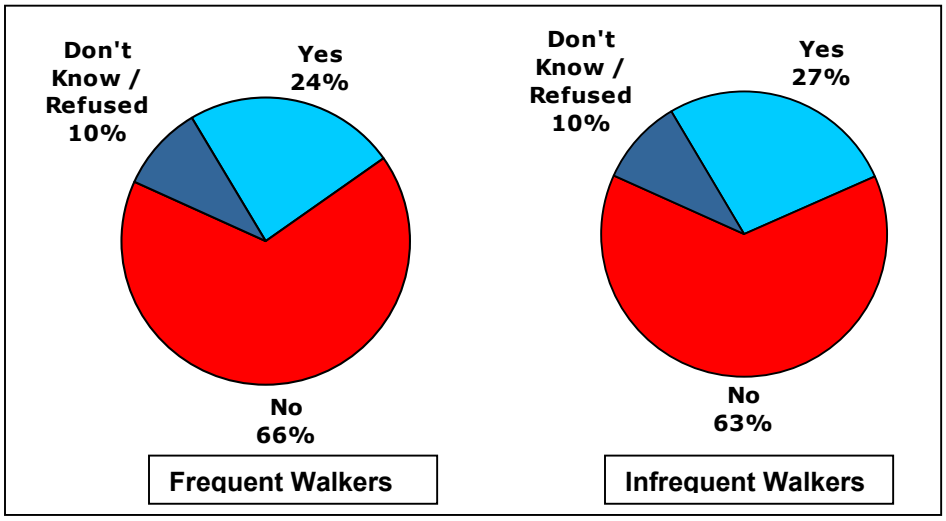
About half of the respondents also agreed that free reflective strips to wear on clothing would encourage safety. A few of the focus group members supported the idea of reflective clothing in the following comments:

> "I was thinking reflective clothing. You can wear an armband when you're crossing."
>
> "If it's not stupid. A little vest is ridiculous. Just a little thing that's not going to wreck my clothes because I do not like holes in my clothing."
>
> "I would wear it if it's something I could apply easily. I walk all of the time. Something I would apply to my hat or my jacket or my shoe."

Furthermore in Figure 25, there was a favorable response among 46% of the frequent walkers and 51% of the infrequent walkers for city buses waiting for riders who wave to the driver so the riders do not have to run across illegally. Another proposed safety measure was crosswalks designated for senior pedestrians, which resulted in 40% of the frequent walkers and 47% of the infrequent walkers agreeing it would provide safety for the pedestrians.

One of the least favorable safety measures was prohibiting drivers from making a right turn when the light is red. About a third of the frequent walkers (36%) and infrequent walkers (42%) favored the proposed rule (Figure 25).

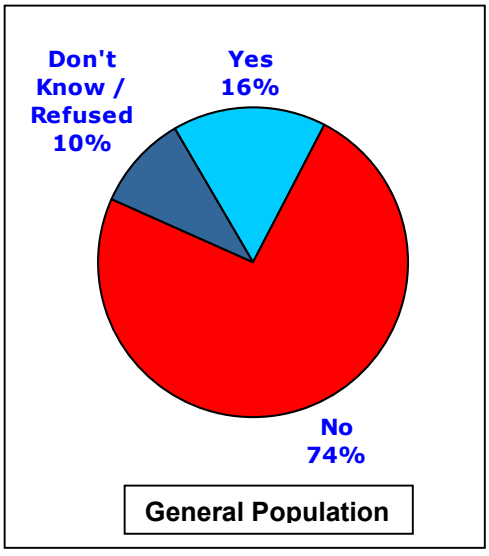
Figure 26a. Favoring a No Right Turn on Red Law



Margin of Error = +/- 4.9%

In Figure 26a, the no right turn on red proposition was represented in the survey as a law. Again, there was low support for the idea between the two segments of walkers. Almost a quarter of the frequent walkers (24%) and slightly more infrequent walkers (27%) were in favor of the law. When the law was presented to all age groups in the general population survey there was an even lower percentage (16%) in favor of the no right turn on red law (Figure 26b). The low responses within the two surveys may be a result of the potential problem of traffic congestion with longer waiting times in the right turn lanes.

Figure 26b. Favoring a No Right Turn on Red Law

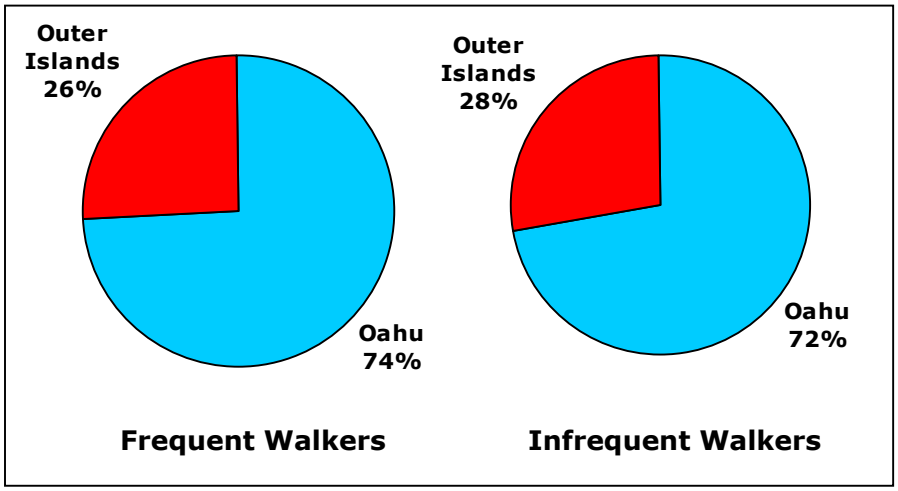


Margin of Error = +/- 4.9%

Demographics

This following section of the report presents the demographics of the pedestrian survey participants. The graphs below provide a comparison between frequent and infrequent walkers.

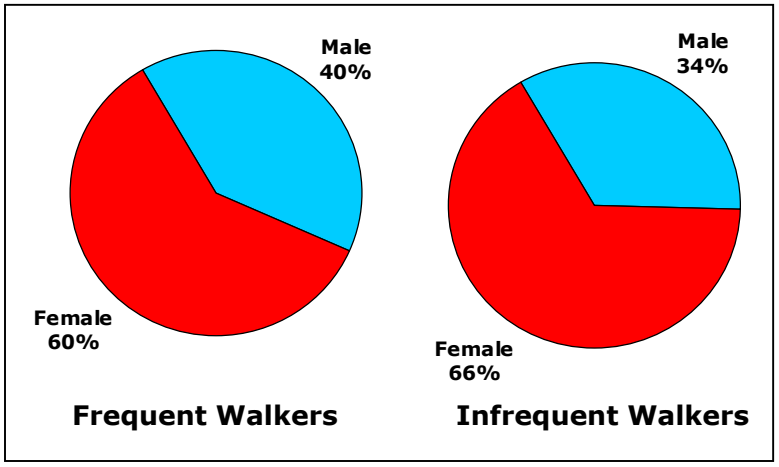
Figure 27. Residence



Margin of Error = +/- 4.9%

Figure 27 shows that about three quarters of the frequent walkers (74%) and infrequent walkers (72%) represented in the survey were from Oahu. The remaining participants were from each of the outer islands in the State.

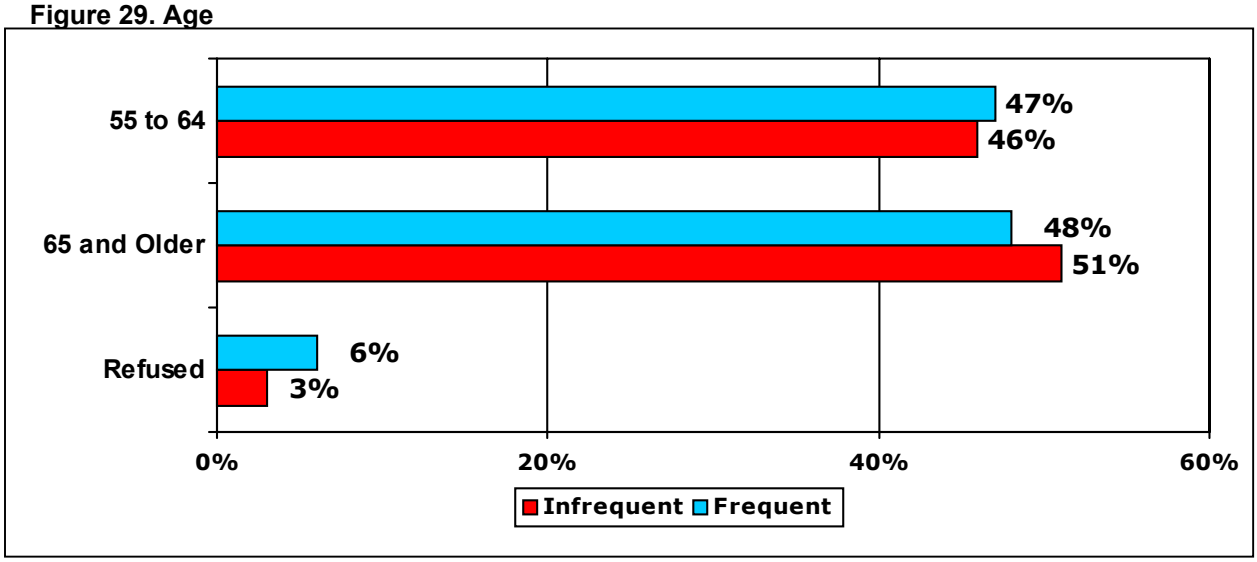
Figure 28. Gender



Margin of Error = +/- 4.9%

In Figure 28, there was a higher proportion of females versus males among the frequent (60%) and infrequent walkers (66%).

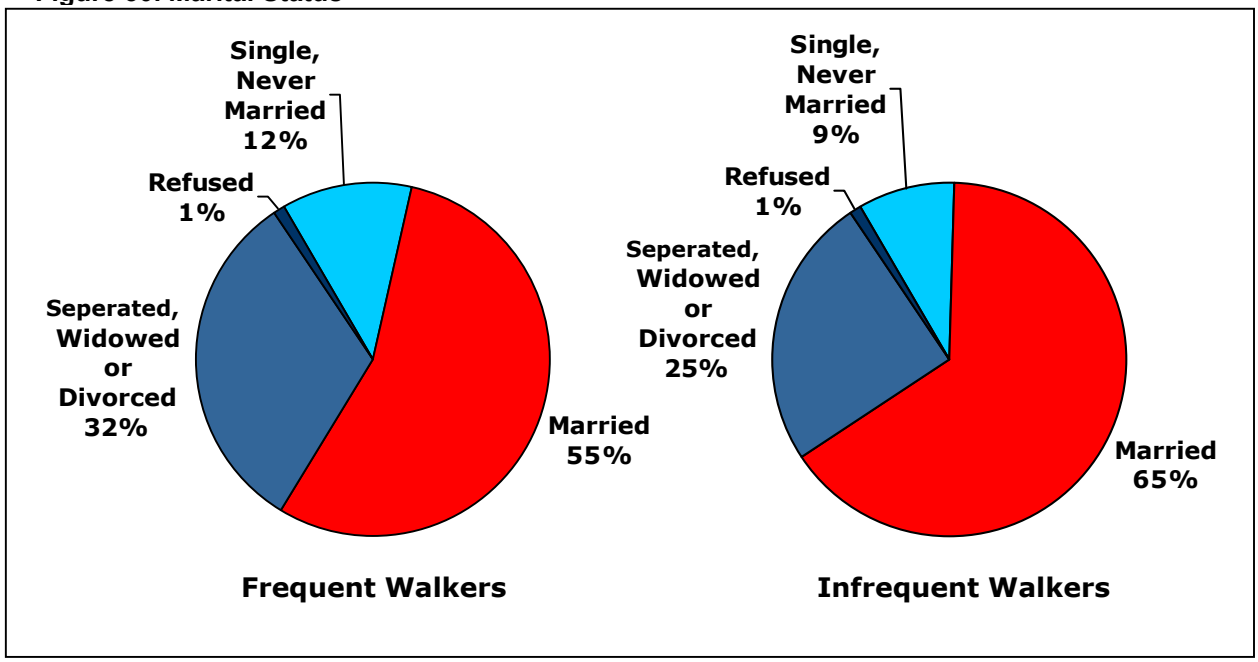
Figure 29. Age



Margin of Error = +/- 4.9%

There was a somewhat equal proportion of survey participants between the 55 to 64 and the 65 and older categories. Within the 55 to 64 year old age group, 47% were frequent walkers and 46% were infrequent walkers. Furthermore, the 65 and older age segment included 48% who were frequent walkers, and slightly more (51%) were infrequent walkers.

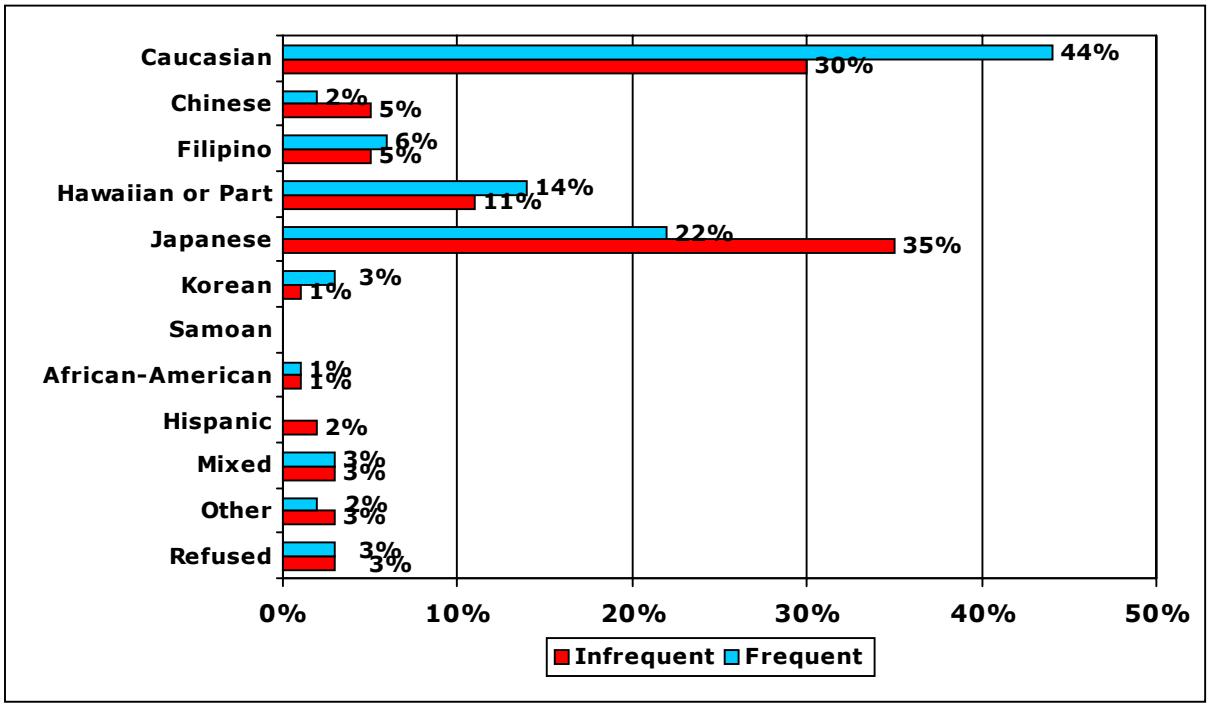
Figure 30. Marital Status



Margin of Error = +/- 4.9%

The majority of the frequent (55%) and infrequent (65%) walkers were married. A third of the frequent walkers (32%) and a quarter of the infrequent walkers (25%) were either separated, widowed, or divorced. In addition, about one in ten of the frequent (12%) and infrequent (9%) walkers were single, never married.

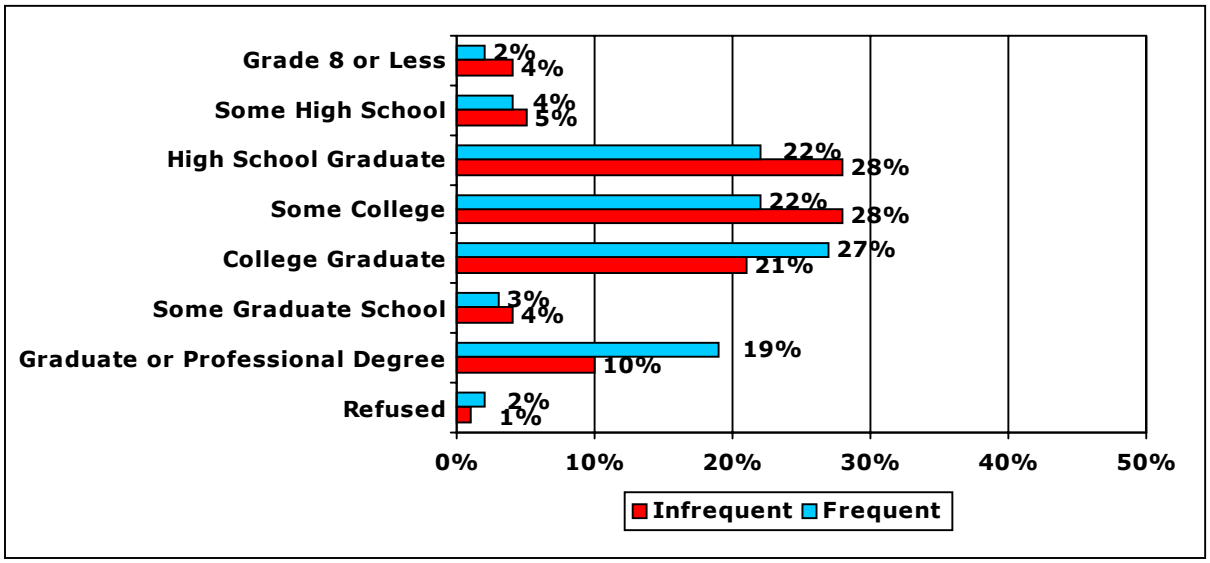
Figure 31. Ethnic Background



Margin of Error = +/- 4.9%

Among the ethnic backgrounds, Caucasians and Japanese represented the majority of the survey. Their proportions in the random sample fell closely in line with the actual percentages of the two ethnicities within the State. Figure 31 demonstrates that there is a significant difference in walker types between Caucasians and Japanese. Caucasians have a higher representation of frequent walkers (44%) versus infrequent walkers (30%), while within the Japanese ethnicity there are more infrequent (35%) versus frequent (22%) walkers. Within the other ethnicities, there are slight differences between the walker types.

Figure 32. Education

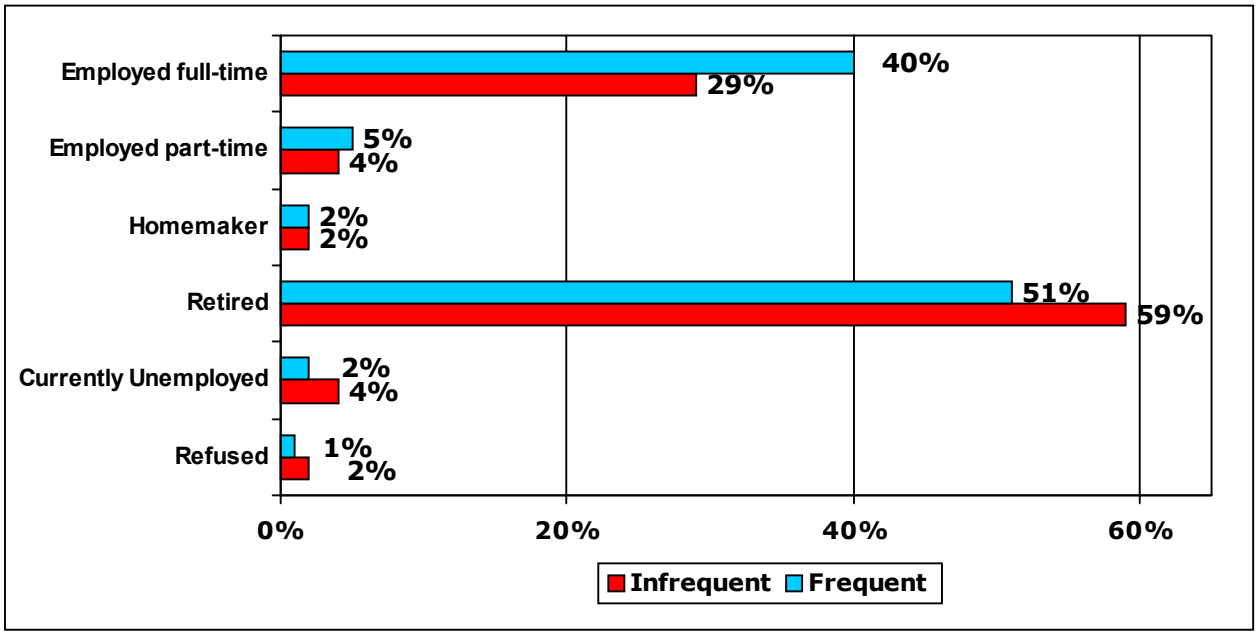


Margin of Error = +/- 4.9%

The frequent walkers tended to have higher educational backgrounds compared to the infrequent walkers. A closer looks reveals that there is higher representation of frequent versus

infrequent walkers within the college graduates (27% vs. 21%, respectively) and those with graduate or professional degrees (19% versus 10%).

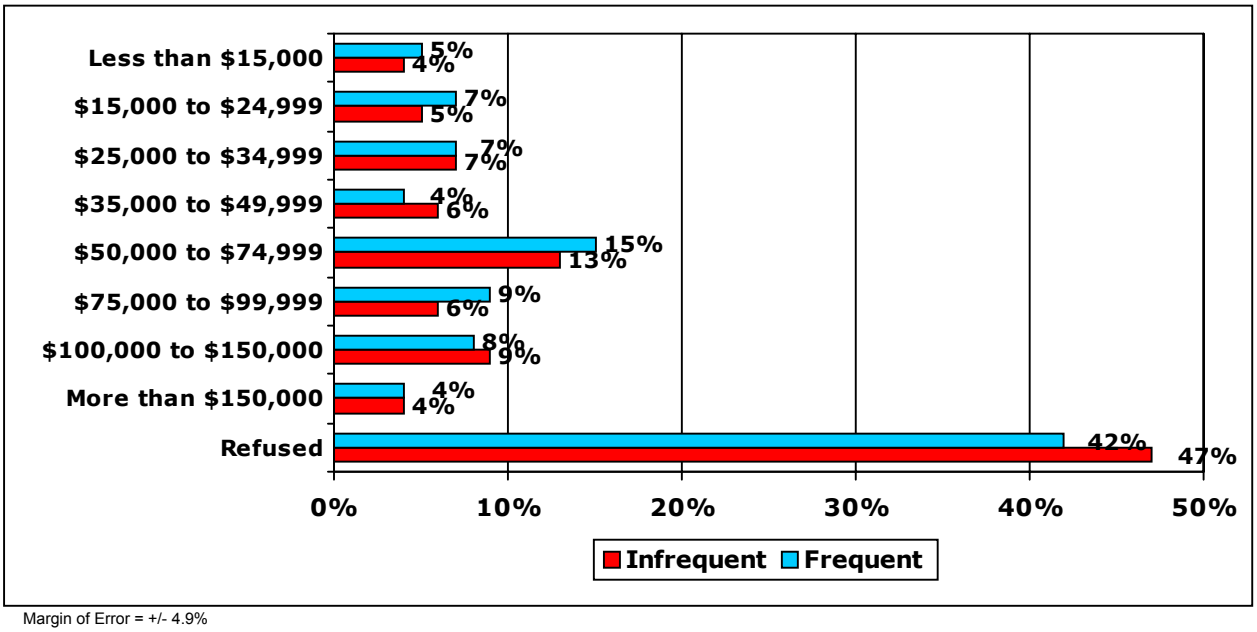
Figure 33. Employment Status



Margin of Error = +/- 4.9%

When comparing employment status, a higher percentage of full-time employees are frequent walkers (40%) versus infrequent walkers (29%). On the other hand, there is higher representation in the retired category with 59% being infrequent walkers compared to 51% being frequent walkers.

Figure 34. Household Income



Margin of Error = +/- 4.9%

Nearly half of the respondents refused to provide their household income, which is not uncommon with the sensitivity of the question. Of those that responded, the highest percentage of frequent (15%) and infrequent walkers (13%) fell under the $50,000 to $74,999 income group.

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APPENDIX A

Department of Transportation Studies, 2003
PEDESTRIANS

Q.123 [IS THIS THE SAME PERSON WHO RESPONDED TO THE HOUSEHOLD SURVEY--DO NOT ASK]

(2867)
□ 1 Yes
□ 2 No

[S - IF THE ANSWER IS 1, THEN SKIP TO QUESTION 127]

Q.124 Hi, my name is _____ and I'm calling on behalf of the Department of Transportation. We're doing an important study about highway safety. I understand that you are age 55 or older. Is that correct?

(2868)
□ 1 Yes
□ 2 NO, but SOMEONE ELSE in the household is and they are AVAILABLE
□ 3 NO, but SOMEONE ELSE in the household is and they are NOT AVAILABLE
□ 4 NOT INTERESTED/REFUSED

[S - IF THE ANSWER IS 1, THEN SKIP TO QUESTION 126]
[S - IF THE ANSWER IS 4, THEN SKIP TO QUESTION 483]
[S - IF THE ANSWER IS 3, THEN SKIP TO QUESTION 482]

Q.125 May I please speak to someone in your household over the age of 55?

(2869)
□ 1 Yes
□ 2 No
□ 3 NOT AVAILABLE AT THIS TIME
□ 4 REFUSED

Q.126 RECORD GENDER--DO NOT ASK

(2870)
□ 1 Male
□ 2 Female

[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 129]

Q.127 Do you consider the roads and streets in Hawaii and your community to be pedestrian friendly?

(2871)
□ 1 Yes
□ 2 No
□ 3 DON'T KNOW
□ 4 REFUSED

[S - IF THE ANSWER IS 3-4, THEN SKIP TO QUESTION 129]

Q.128 Why do you say that?

_____ (2872-3121)

_____

_____

_____

Q.129 Within the past week, how many times did you **walk** to any destination?

(3122)
□ 1 None
□ 2 1 or 2
□ 3 3 or 4
□ 4 5 or more
□ 5 DON'T KNOW
□ 6 REFUSED

Q.130 And how many times during the past week did you **drive** to any destination?

(3123)
□ 1 None
□ 2 1 or 2
□ 3 3 or 4
□ 4 5 or more
□ 5 DON'T KNOW
□ 6 REFUSED

Q.131 Within the past week, how many times has **someone else driven you** to any destination?

(3124)
□ 1 None
□ 2 1 or 2
□ 3 3 or 4
□ 4 5 or more
□ 5 DON'T KNOW
□ 6 REFUSED

Q.132 During the past week, how many times did you use **public transportation**, like a bus, taxi, shuttle, or any other form of public transportation?

(3125)
□ 1 None
□ 2 1 or 2
□ 3 3 or 4
□ 4 5 or more
□ 5 DON'T KNOW
□ 6 REFUSED

[A - IF THE ANSWER TO QUESTION 129 IS 1 OR 5-6, THEN SKIP TO QUESTION 136]

Q.133 You said that you walked [ANSWER TO Q. 129] times last week. What were the primary reasons for these walks? Was it for... [READ LIST]

[ENTER ALL THAT APPLY]

(3126-3131)
□ 1 Shopping
□ 2 Visiting friends
□ 3 Going to work
□ 4 Going home
□ 5 For exercise
□ 6 Other
□ 7 DON'T KNOW/REFUSED

[S - IF THE ANSWER IS NOT 6, THEN SKIP TO QUESTION 135]

Q.134 SPECIFY OTHER REASON FOR WALKS

_____ (3132-3281)

_____

Q.135 What time of the day do you most often walk?

[ENTER ALL THAT APPLY]

(3282-3287)
□ 1 6am to 9am
□ 2 9am to noon
□ 3 noon to 3pm
□ 4 3pm to 6pm
□ 5 6pm to 9pm
□ 6 9pm to midnight
□ 7 midnight to 6am
□ 8 DON'T KNOW
□ 9 REFUSED

Q.136 In your own words, can you tell me what it means when the red hand flashes on the signs at a crosswalk?

_____ (3288-3537)

_____

_____

_____

Q.137 I am going to read you a series of statements. For each one, please tell me if you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree or strongly disagree.

(3538)
□ 1 ENTER 1 TO CONTINUE

[ASK QUESTIONS 138 TO 151 IN RANDOM ORDER]
[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 9999]

Q.138 Extreme speeding is the major cause for highway fatalities

(3539)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 9999]

Q.139 Pedestrians are always at fault during an accident with a vehicle

(3540)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 9999]

Q.140 Drivers are always at fault when pedestrian fatalities occur.

(3541)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.141 The roads and streets in Hawaii are too wide for pedestrians to cross safely

(3542)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.142 Most crosswalks are not well lit, so pedestrians cannot be seen when walking across

(3543)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 9999]

Q.143 Drivers should not proceed when pedestrians are in a crosswalk

(3544)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.144 Pedestrians should always use crosswalks

(3545)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.145 I would walk more often if the streets were more pedestrian friendly

(3546)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.146 It is more dangerous to cross the street now than it was ten years ago

(3547)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.147 Street curbs are too high at crosswalks and intersections

(3548)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 9999]

Q.148 The roads in Hawaii are not pedestrian friendly

(3549)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.149 Crosswalk signals do not provide enough time to walk across safely

(3550)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 9999]

Q.150 Drivers do not respect the rights of pedestrians

(3551)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.151 Drivers should get ticketed for not allowing pedestrians to cross at crosswalks

(3552)
□ 1 Strongly Agree
□ 2 Somewhat Agree
□ 3 Neither Agree nor Disagree
□ 4 Somewhat Disagree
□ 5 Strongly Disagree
□ 6 Don't Know

Q.152 This next section will help us understand how people behave when walking in Hawaii. Please tell me if you do the following things always, sometimes or never.

(3553)
□ 1 ENTER 1 TO CONTINUE

Q.153 How often do you wear reflective clothing during non-daylight hours?

[REPEAT SCALE IF NECESSARY]

(3554)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

[ASK QUESTIONS 154 TO 172 IN RANDOM ORDER]

Q.154 [How often do you] walk across the streets in crosswalks or at intersections?

[REPEAT SCALE IF NECESSARY]

(3555)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.155 [How often do you] feel it is more convenient to cross the street somewhere other than at a corner?

[REPEAT SCALE IF NECESSARY]

(3556)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.156 [How often do you] look for a safe place to cross, whether in a crosswalk or not?

[REPEAT SCALE IF NECESSARY]

(3557)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.157 [How often do you] wear white or light-colored clothing when walking during non-daylight hours?

[REPEAT SCALE IF NECESSARY]

(3558)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.158 [How often do you] fear walking across the street?

[REPEAT SCALE IF NECESSARY]

(3559)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.159 [How often do you] look for cars, even when you have the right-of-way?

[REPEAT SCALE IF NECESSARY]

(3560)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.160 [How often do you] wave to a driver that stops for you?

[REPEAT SCALE IF NECESSARY]

(3561)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.161 [How often do you] need help from other pedestrians to cross the street?

[REPEAT SCALE IF NECESSARY]

(3562)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.162 [How often do you] find it too hot to walk to the next crosswalk or corner to cross the street?

[REPEAT SCALE IF NECESSARY]

(3563)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.163 [How often do you] think that vehicles should stop for pedestrians in a crosswalk?

[REPEAT SCALE IF NECESSARY]

(3564)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.164 [How often do you] not have time to wait at a crosswalk and cross anywhere in the street instead?

[REPEAT SCALE IF NECESSARY]

(3565)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.165 [How often do you] have a hard time crossing the street before the crosswalk signal changes?

[REPEAT SCALE IF NECESSARY]

(3566)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.166 [How often do you] wait for the signal before crossing at an intersection?

[REPEAT SCALE IF NECESSARY]

(3567)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.167 [How often do you] run, or walk at a fast pace, to cross the street?

[REPEAT SCALE IF NECESSARY]

(3568)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.168 [How often do you] pay attention to cars even when crossing at a crosswalk with signals?

[REPEAT SCALE IF NECESSARY]

(3569)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.169 [How often do you] feel more safe when crossing at a crosswalk with signals?

[REPEAT SCALE IF NECESSARY]

(3570)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.170 [How often do you] make eye contact with drivers before crossing the street?

[REPEAT SCALE IF NECESSARY]

(3571)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.171 [How often do you] have a difficult time estimating the speed of approaching cars?

[REPEAT SCALE IF NECESSARY]

(3572)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.172 [How often do you] worry about police officers issuing citations for crossing illegally?

[REPEAT SCALE IF NECESSARY]

(3573)
□ 1 Always
□ 2 Sometimes
□ 3 Never
□ 4 DON'T KNOW
□ 5 REFUSED

Q.173 Now I'd like to ask you some questions about your understanding and experience with pedestrian safety issues.

(3574)
□ 1 ENTER 1 TO CONTINUE

[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 175]

Q.174 About how many pedestrians do you think die from traffic accidents in Hawaii each year?

[ENTER 9999 FOR DON'T KNOW/REFUSED]

_____ (3575-3578)

Q.175 Have you ever been involved in a vehicle-related accident while walking?

(3579)
□ 1 Yes
□ 2 No
□ 3 DON'T KNOW
□ 4 REFUSED

[S - IF THE ANSWER IS NOT 1, THEN SKIP TO QUESTION 177]

Q.176 Can you please tell me what happened?

_____ (3580-3829)

_____

_____

_____

Q.177 Have you ever had a close call when you were afraid that you might get hit by a vehicle while walking?

(3830)
□ 1 Yes
□ 2 No
□ 3 DON'T KNOW
□ 4 REFUSED

[S - IF THE ANSWER IS NOT 1, THEN SKIP TO QUESTION 179]

Q.178 Can you please tell me what happened?

_____ (3831-4080)

_____

_____

_____

Q.179 Do you know anyone else who has ever been involved in a vehicle-related accident while walking?

(4081)
□ 1 Yes
□ 2 No
□ 3 DON'T KNOW
□ 4 REFUSED

[S - IF THE ANSWER IS NOT 1, THEN SKIP TO QUESTION 181]

Q.180 Can you please tell me what happened?

_____ (4082-4331)

_____

_____

_____

Q.181 Can you think of anything that could be done to help ensure your safety while crossing the street?

(4332)
□ 1 Yes
□ 2 No
□ 3 DON'T KNOW
□ 4 REFUSED

[S - IF THE ANSWER IS NOT 1, THEN SKIP TO QUESTION 183]

Q.182 And what do you think needs to be done?

_____ (4333-4582)

_____

_____

_____

Q.183 A number of suggestions have been made about actions that might help to ensure pedestrian safety. For each one, please tell me if you think the action is very likely, somewhat likely, neither likely nor unlikely, somewhat unlikely or very unlikely to promote pedestrian safety.

(4583)
□ 1 ENTER 1 TO CONTINUE

Q.184 If people were given free reflective strips to wear on clothing when walking, do you think that is very likely, somewhat likely, neither likely nor unlikely, somewhat unlikely, or very unlikely to promote pedestrian safety?

(4584)
□ 1 Very likely
□ 2 Somewhat likely
□ 3 Neither likely nor unlikely
□ 4 Somewhat unlikely
□ 5 Very unlikely
□ 6 DON'T KNOW
□ 7 REFUSED

Q.185 How about if there were crosswalks designated for senior pedestrians?

[REPEAT SCALE IF NECESSARY]

(4585)
□ 1 Very likely
□ 2 Somewhat likely
□ 3 Neither likely nor unlikely
□ 4 Somewhat unlikely
□ 5 Very unlikely
□ 6 DON'T KNOW
□ 7 REFUSED

Q.186 What if tickets and fines to be given to people for crossing at places other than crosswalks or intersections?

[CLARIFY WITH: JAYWALKING] [REPEAT SCALE IF NECESSARY]

(4586)
□ 1 Very likely
□ 2 Somewhat likely
□ 3 Neither likely nor unlikely
□ 4 Somewhat unlikely
□ 5 Very unlikely
□ 6 DON'T KNOW
□ 7 REFUSED

Q.187 And how about if city buses waiting for riders that wave to the driver so the riders do not have to run across the road illegally?

[REPEAT SCALE IF NECESSARY]

(4587)
□ 1 Very likely
□ 2 Somewhat likely
□ 3 Neither likely nor unlikely
□ 4 Somewhat unlikely
□ 5 Very unlikely
□ 6 DON'T KNOW
□ 7 REFUSED

Q.188 Do you think prohibiting drivers from making a right turn when the light is red would increase pedestrian safety?

[REPEAT SCALE IF NECESSARY]

(4588)
□ 1 Very likely
□ 2 Somewhat likely
□ 3 Neither likely nor unlikely
□ 4 Somewhat unlikely
□ 5 Very unlikely
□ 6 DON'T KNOW
□ 7 REFUSED

Q.189 What about distributing educational materials about pedestrian safety?

[REPEAT SCALE IF NECESSARY]

(4589)
□ 1 Very likely
□ 2 Somewhat likely
□ 3 neither likely nor unlikely
□ 4 Somewhat unlikely
□ 5 Very unlikely
□ 6 DON'T KNOW
□ 7 REFUSED

[A - IF THE ANSWER TO QUESTION 123 IS 1, THEN SKIP TO QUESTION 191]

Q.190 One of the laws being considered here in Hawaii concerns turning right at a red light. Are you in favor of passing a law that will prevent drivers from making a right turn at a red light?

(4590)
□ 1 Yes
□ 2 No
□ 3 DON'T KNOW
□ 4 REFUSED

Q.191 My last few questions are for classification purposes only.

(4591)
□ 1 ENTER 1 TO CONTINUE

Q.192 Which age category do you fall into? Are you...? [READ LIST]

(4592)
□ 1 55 to 60
□ 2 61 to 64
□ 3 65 to 70
□ 4 71 to 74
□ 5 76 to 80
□ 6 81 or older
□ 7 DON'T KNOW/REFUSED

Q.193 Are you or anyone in your household on active duty in the U.S. military?

(4593)
□ 1 Yes
□ 2 No
□ 3 DON'T KNOW
□ 4 REFUSED

Q.194 What is your marital status? Are you…. [READ LIST]

(4594)
□ 1 Single, never married
□ 2 Married
□ 3 Separated, widowed or divorced
□ 4 DON'T KNOW/REFUSED

Q.195 What is your ethnic background?

[DO NOT READ LIST]

(4595-4596)
□ 01 Caucasian
□ 02 Chinese
□ 03 Filipino
□ 04 Hawaiian or part-Hawaiian
□ 05 Japanese
□ 06 Korean
□ 07 Samoan
□ 08 African-American
□ 09 Hispanic or Latino
□ 10 Mixed, not Hawaiian
□ 11 Other
□ 12 DON'T KNOW
□ 13 REFUSED

[S - IF THE ANSWER IS NOT 11, THEN SKIP TO QUESTION 197]

Q.196 SPECIFY OTHER ETHNICITY

_____ (4597-4696)

_____

Q.197 What is your highest level of education completed?

[READ LIST IF NECESSARY]

(4697)
□ 1 Grade 8 or less
□ 2 Some high school
□ 3 High school graduate
□ 4 Some college (1 to 3 years)
□ 5 College graduate (Bachelor's degree)
□ 6 Some graduate school
□ 7 Graduate or professional degree
□ 8 DON'T KNOW/REFUSED

Q.198 What is your employment status? Are you…[READ LIST]

(4698)
□ 1 Employed full-time (35+ hours/week)
□ 2 Employed part-time
□ 3 A full-time student
□ 4 A homemaker
□ 5 Retired
□ 6 Currently Unemployed
□ 7 DON'T KNOW/REFUSED

Q.199 What was your total 2002 **PERSONAL** income, before taxes? Was it…[READ LIST]

(4699)
□ 1 Less than $15,000
□ 2 $15,000 to $24,999
□ 3 $25,000 to $34,999
□ 4 $35,000 to $49,999
□ 5 $50,000 to $74,999
□ 6 $75,000 to $99,999
□ 7 $100,000 to $150,000
□ 8 More than $150,000
□ 9 DON'T KNOW
□ 0 REFUSED

Q.200 What was the total 2002 income for **ALL** the people in your **household**, before taxes? Was it….[READ LIST]

(4700)
□ 1 Less than $15,000
□ 2 $15,000 to $24,999
□ 3 $25,000 to $34,999
□ 4 $35,000 to $49,999
□ 5 $50,000 to $74,999
□ 6 $75,000 to $99,999
□ 7 $100,000 to $150,000
□ 8 More than $150,000
□ 9 DON'T KNOW
□ 0 REFUSED

Q.201 Thank you so much for your time. We may do other surveys like this one in the future...may we contact you again to participate in an e-mail panel and/or focus group?

(4701)
□ 1 Yes
□ 2 No
□ 3 DON'T KNOW
□ 4 REFUSED

[S - IF THE ANSWER IS NOT 1, THEN SKIP TO QUESTION 203]

Q.202 May I please have your name and e-mail address?

_____ (4702-4951)

_____

_____

_____

Q.203 Thank you again for your time. Goodbye.

(4952)
□ 1 ENTER 1 TO COMPLETE

[S - IF THE ANSWER IS 1, THEN SKIP TO QUESTION 484]